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*The Canadian Dental Association*

# JOURNAL

*L'Association Dentaire Canadienne*

JULY

JUILLET

1963

VOLUME 29

No. 7

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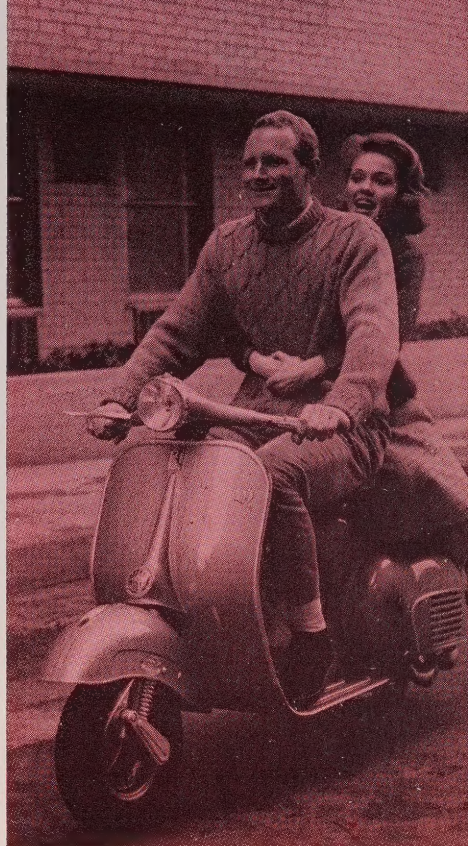
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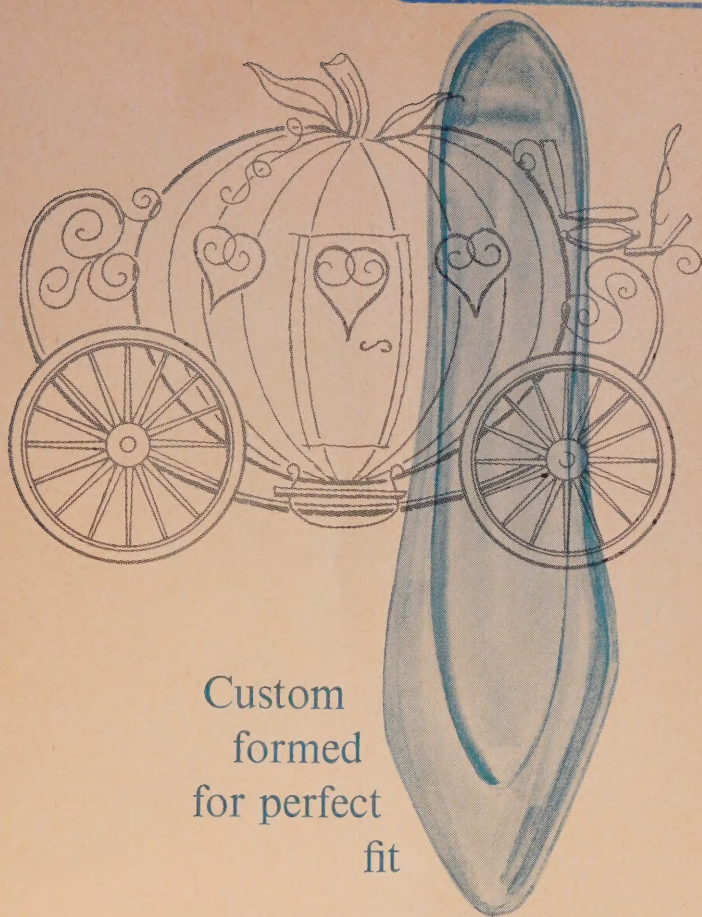
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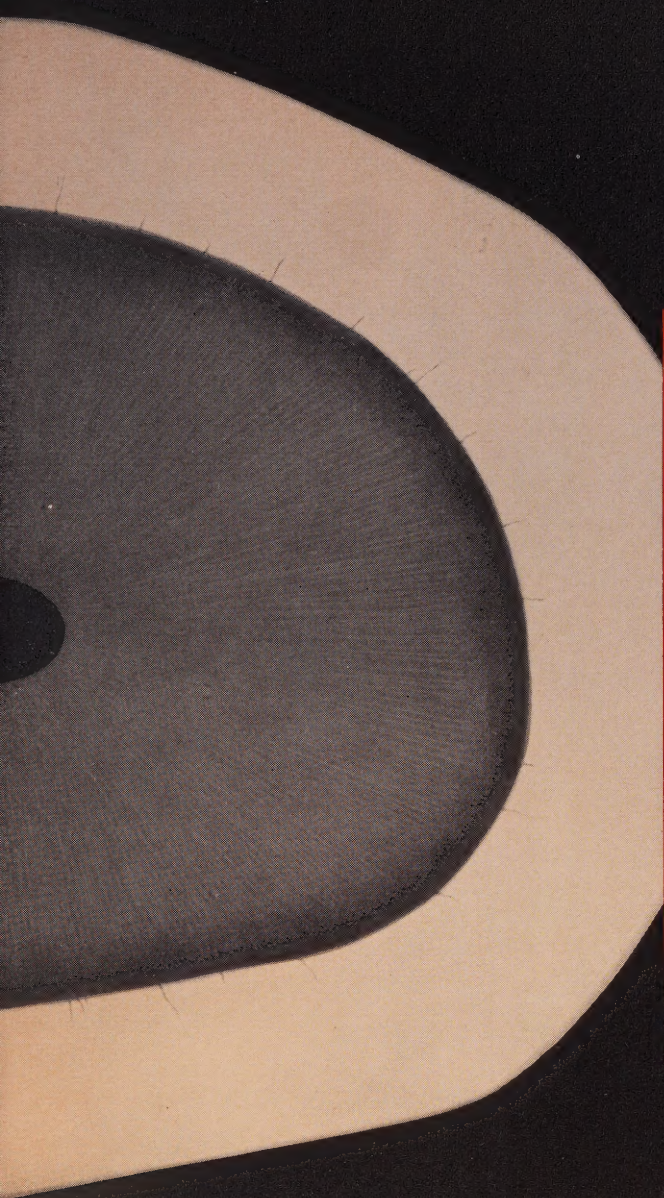
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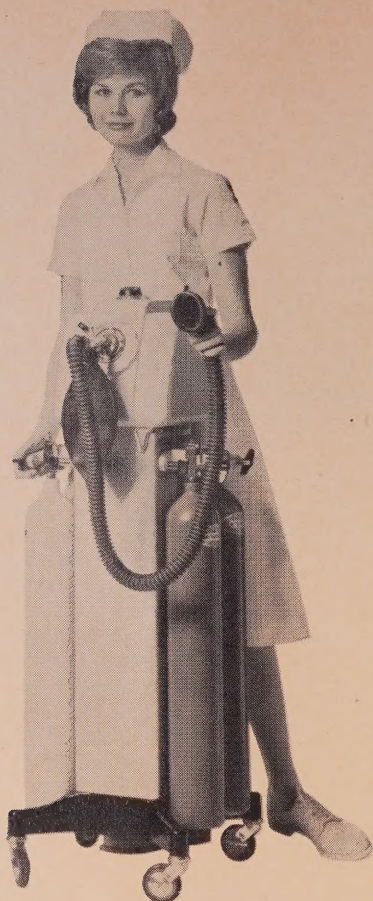


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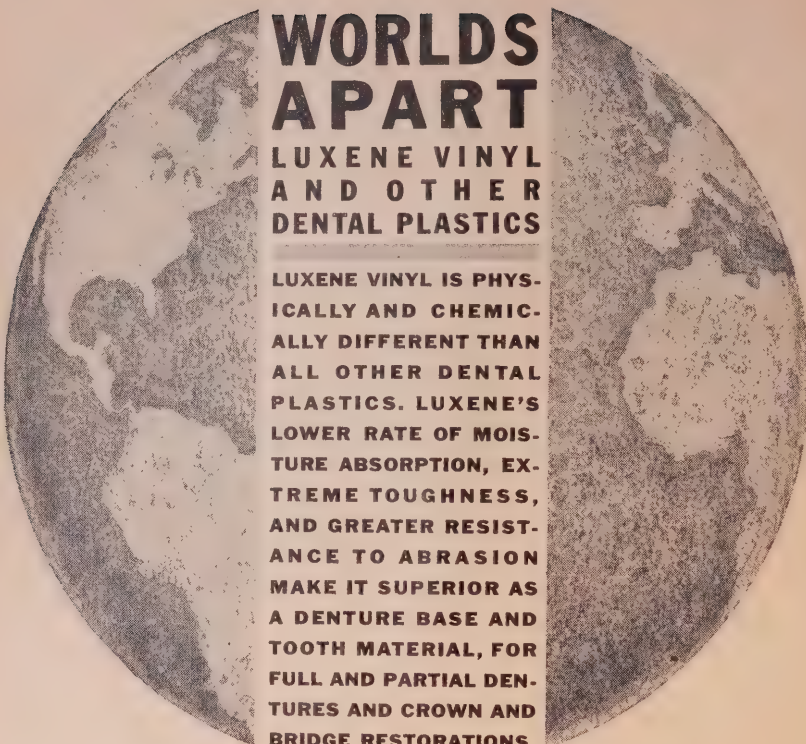
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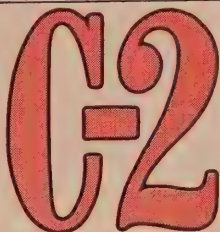
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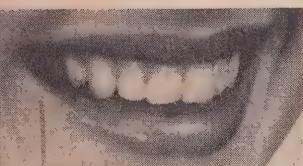


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Published monthly for the Canadian Dental Association by Gordon V. Allen Publications, 95 King Street East, Suite 205, Toronto, Ontario. Telephone 368-6251.  
Gordon V. Allen, Advertising Manager.

Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

Authorized as Second Class Mail, Post Office Department, Ottawa, and for payment of postage in cash.

All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month.

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*The Canadian Dental Association*

Volume 29

Number 7

Toronto

July 1963

JOURNAL

*L'Association Dentaire Canadienne*

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### **Malocclusion and dental caries**

*D. Stothard,\* B.A., and F. McCombie,† L.D.S., R.C.S., (Eng.),  
D.D.P.H., Victoria, British Columbia*

Clinical observations over many years have supported the hypothesis that a direct relationship exists between malocclusion and dental caries. However, statistical verification of this relationship would appear to have been but seldom reported, and on two previous occasions the data available warranted only qualified conclusions.<sup>1,2</sup> Other studies have shown that malocclusion decreased following the fluoridation of water, which decrease was

presumably inter-related to a corresponding reduction in the level of dental caries.<sup>3,4</sup>

In an attempt to obtain further verification of a relationship between malocclusion and caries, a detailed analysis by age group of the DMF + def rates for three levels of normal and abnormal occlusion was completed from data obtained in a 1961 dental health survey of the Vancouver Island region of British Columbia.<sup>5</sup> The results of this survey indicated that the mean DMF + def rate per child in the age group from 7 to 15 years was 9.8, and that 71.8 per cent of

---

\*Research officer, B.C. Health Branch

†Director, Division of Preventive Dentistry, B.C. Health Branch



the children evidenced abnormal occlusion.

The first series of dental health surveys throughout British Columbia was completed during the years 1958 to 1960 and provided data from the dental examinations of 9,295 children selected randomly from over 97 per cent of the entire public school population. These results indicated that the provincial mean DMF + def rate per child in the age group from 7 to 15 years was 9.5, and that 65.4 per cent of these children evidenced abnormal occlusion.<sup>6</sup> Studies in other prov-

inces using a similar methodology and criteria have reported the percentage of children with abnormal occlusion as being in the range 49.9 to 59.9 for children aged 7 to 13 years.<sup>7</sup>

#### METHOD OF STUDY

In an attempt primarily to refine the appraisal of the prevalence of malocclusion, the methodology and criteria in this respect were revised for the second series of surveys to be carried out during the years 1961 to 1965 in British Columbia.<sup>8</sup>

TABLE 1 Classification of occlusion, British Columbia dental health surveys, 1961-65.

| Description of criteria                                                          | Level of occlusion  |                                                        |                                                      |
|----------------------------------------------------------------------------------|---------------------|--------------------------------------------------------|------------------------------------------------------|
|                                                                                  | Normal occlusion    | Abnormal occlusion                                     | Severe malocclusion                                  |
| Molar relationship:                                                              | Normal              | One or both sides are in distocclusion                 | Mesiocclusion                                        |
| Is the mandibular cuspid posterior to the maxillary cuspid on one or both sides? | No                  | Yes                                                    |                                                      |
| Are any teeth grossly crowded?                                                   | No                  | One or two teeth only.                                 | Three or more teeth.                                 |
| Is there drifting from premature loss?                                           | No                  | Not more than one or two teeth affected in one arch.   | Three or more teeth affected in one arch.            |
| Is anterior or posterior crossbite present?                                      | No                  | Not more than one or two teeth affected in one arch.   | Three or more teeth affected in one arch.            |
| The overjet is:                                                                  | Normal <sup>1</sup> | Positive between 4 - 7 mm.                             | Positive 7 mm. or more or negative 1 mm. or more.    |
| The overbite is:                                                                 | Normal <sup>2</sup> | 4 mm. or more with no trauma, <sup>3</sup> or openbite | 4 mm. or more with trauma, <sup>3</sup> or openbite. |
| Is there any other manifestation of malocclusion present?                        | No                  | Yes (describe)                                         |                                                      |
| Is there a congenital malformation of the mouth?                                 | No                  | Yes, minor <sup>4</sup> (describe)                     | Yes, severe (describe)                               |

1. Defined as — positive overjet of less than 4 mm., edge to edge incisal relationship and negative overjet of less than 1 mm.

2. Defined as — overbite of less than 4 mm.

3. Defined as — trauma of the palatal or gingival soft tissues caused by the lower incisors.

4. Classified as "minor" if no severe malocclusion has resulted from congenital oral defect.

TABLE 2 Number of children, DMF + def rate and standard deviation of rate, by age group and level of occlusion, Vancouver Island Health Units, 1961.

| Age          | Attribute          | Level of occlusion |                    |                     | All subjects |
|--------------|--------------------|--------------------|--------------------|---------------------|--------------|
|              |                    | Normal occlusion   | Abnormal occlusion | Severe malocclusion |              |
| 7 years      | No. of children    | 105                | 103                | 68                  | 276          |
|              | DMF + def rate     | 8.51               | 9.18               | 10.34               | 9.21         |
|              | Standard deviation | 3.99               | 3.69               | 3.96                | 3.92         |
| 9 years      | No. of children    | 82                 | 96                 | 85                  | 263          |
|              | DMF + def rate     | 8.49               | 9.64               | 10.82               | 9.66         |
|              | Standard deviation | 4.06               | 3.30               | 3.39                | 3.69         |
| 11 years     | No. of children    | 72                 | 109                | 102                 | 283          |
|              | DMF + def rate     | 7.43               | 7.82               | 8.78                | 8.06         |
|              | Standard deviation | 3.58               | 4.21               | 4.33                | 4.13         |
| 13 years     | No. of children    | 44                 | 114                | 88                  | 246          |
|              | DMF + def rate     | 7.96               | 9.68               | 10.46               | 9.65         |
|              | Standard deviation | 4.33               | 4.50               | 4.72                | 4.61         |
| 15 years     | No. of children    | 58                 | 101                | 87                  | 246          |
|              | DMF + def rate     | 11.60              | 12.93              | 12.60               | 12.50        |
|              | Standard deviation | 5.91               | 5.09               | 4.49                | 5.10         |
| All odd ages | No. of children    | 361                | 523                | 430                 | 1,314        |
| 7-15 years   | DMF + def rate     | 8.72               | 9.82               | 10.54               | 9.75         |
|              | Standard deviation | 4.34               | 4.22               | 4.23                | 4.26         |

For these surveys, three mutually exclusive levels of occlusion were arbitrarily established, namely — "normal occlusion," "minor abnormal occlusion" and "severe malocclusion." The criteria utilized for the purposes of classifying the levels of occlusion are described in Table 1. If for any of the criteria one or more of the responses described in the column headed "severe malocclusion" were recorded, then the child was classified in this group. If one or more of the responses described in the column headed "abnormal occlusion" were recorded and there were no responses recorded in the column headed "severe malocclusion," then the child was classified as having "minor abnormal occlusion." Finally, if all of the responses to the criteria were recorded in the column "normal occlusion," then the child was classified in this group.

Throughout these surveys one of the measures of caries prevalence has been the DMF + def rate per child. This rate includes all teeth, permanent and deciduous, which are either prematurely lost (excluding traumatic and orthodontic loss), abscessed and/or with their crowns destroyed or being otherwise carious, or restored and not carious.

The first of the 1961-1965 series of surveys was carried out in the region comprising the three health units which serve Vancouver Island and a small part of the west coast of the lower mainland of British Columbia, but exclusive of the Greater Victoria School District.

## RESULTS

In this survey 1,318 children aged 7, 9, 11, 13 and 15 years were dentally exam-



ined. Of these, 361 (27.5 per cent) were rated as having "normal occlusion," 523 (39.8 per cent) as having "minor abnormal occlusion" and 430 (32.7 per cent) as suffering "severe malocclusion." Four children were not so classified, being edentulous.

The relationships between the levels of occlusion and the caries prevalence rates of these children are demonstrated in Table 2.

#### DISCUSSION OF RESULTS

It will be noted that at each age level the dental caries experience rate of children with "normal occlusion" was less than that of children with "abnormal occlusion." This latter rate was itself less than the caries experience rate of the children with "severe malocclusion" at each age level except 15 years. At this age the children with "abnormal occlusion" experienced a slightly higher rate than did those with "severe malocclusion," although this difference was not statistically significant.

However, as a result of the small numbers of children in these classifications by age group, the chance variation in the rates was relatively high, and the only differences of statistical significance (using the "t" test at the one per cent level) were between the caries prevalence rates of those children with "normal occlusion" and of those with "severe malocclusion" at the ages of 7, 9 and 13 years.

Nevertheless, for all age groups combined, the DMF + def rate for children with "normal occlusion" was significantly less at the one per cent level than the caries experience rate of those children with "abnormal occlusion," and this latter rate was also significantly less than the caries prevalence rate of the children suffering "severe malocclusion."

Although these results support the hypothesis that malocclusion and caries are in some way related, the nature of the relationship is not revealed. It may

be that malocclusion predisposes to caries susceptibility, or, conversely, that caries mutilation may aggravate any degree of malocclusion. The possibility also exists that malocclusion and caries are to a large degree independent, but similarly influenced by a process or processes largely external to themselves.

#### SUMMARY AND CONCLUSIONS

1. The severity of the prevalence of malocclusion is demonstrated.
2. A statistically significant relationship is reported between malocclusion and dental caries.

#### RÉSUMÉ

*Des constatations faites en clinique durant de nombreuses années semblent prouver l'hypothèse qu'il y a une relation étroite entre l'incidence de la carie et les malocclusions. Les auteurs, pour tenter de vérifier plus à fond les rapports carie-malocclusion, ont compilé les données du premier relevé des examens qui ont été entrepris et qui seront continués de 1961 à 1965 des dents des enfants de la localité comprenant les trois unités sanitaires de l'île de Vancouver et une petite portion de la côte ouest de la terre ferme de la Colombie britannique, mais ne comprenant pas le district scolaire du Grand Victoria. Ces examens ont couvert 1,318 enfants de 7, 9, 11, 13 et 15 ans.*

*Pour l'ensemble de tous les âges, le taux du DMF et du def des enfants ayant une "bonne occlusion" était plus bas au niveau de un pour cent que celui des enfants ayant "une occlusion anormale" et ce dernier taux était beaucoup plus bas que celui des enfants ayant une "malocclusion grave."*

*Ces données semblent confirmer l'hypothèse d'une relation étroite entre l'incidence de la carie et les malocclusions, mais la raison d'être de cet état de chose n'est pas connue. Il se peut qu'une*

*malocclusion prédispose à la carie ou, au contraire, que les lésions de carie aggravent une tendance à la malocclusion. Il est possible aussi que la carie et les malocclusions n'ait que peu de rapport et qu'elles soient ensemble influencées par un processus ou des processus extrinsèques.*

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## Reaction of alveolar bone to a polyurethane polymer

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The desire and need for a satisfactory material which will replace bony defects in the jaws due to chronic destructive periodontal disease, must be evident to all.

Much work has already been done in this field with bone homografts [Kromer, (1960)],<sup>1</sup> anorganic bone chips [Cross, (1957) and Yuktananda, (1959)],<sup>2,3</sup> and cartilage grafts [Schaffer, (1958)]<sup>4</sup> to name only a few. Concomitant with this work there have been developed a number of plastic materials, one of which has been a polyurethane polymer.

Work such as that of Peltier, Bickel, Lillo and Thein (1957),<sup>5</sup> with the use of pre-made plaster of paris columns and pellets inserted into bony defects in the radii of dogs, suggested that a suitable non tissue-like material might be developed, which would mechanically close the bony defect, and allow healing to progress with the formation of bone into the area where the implant had been placed.

One of the materials that has been developed recently is *Ostamer*, a polyurethane polymer. Preliminary reports by Salvatore and Mandarino (1959)<sup>6</sup> suggested that a study of this material in the jaws was indicated. The plastic polymerized to a rigid form and apparently allowed osteoblastic activity to take place

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This study was supported by U.S. Public Health Service Grant D 1193. Material for this study was supplied by the W. L. Merrell Company, Cincinnati, Ohio.



and new bone formation to occur. Therefore a preliminary histological study was performed in the jaws of dogs to see if this material was worth investigating more fully.

#### METHODS AND MATERIALS

Three adult mongrel dogs were operated upon under sodium pentobarbital anaesthesia. The maxillary lateral incisors were extracted and the plastic bone inserted into the sockets, one side being used as a control. The gingiva was sutured to keep the plastic in place and to facilitate healing. In one dog, a gingival mucoperiosteal flap was reflected around a lower canine and lateral incisor. Alveolar bone was removed interdentially and vertically along the root of the canine for a distance of approximately 8 mm. The plastic bone was inserted into the bony defect and the gingiva sutured back in place. A similar defect was created contra-laterally without inserting the implant, and healing allowed to take place.

The plastic bone was prepared according to the manufacturer's instructions prior to insertion either in the socket or in the bony defect beside the tooth.

The animals were killed after 64 days, 101 days and 173 days. The plastic material was left in place for a considerable period of time as initial work by McCoomb, Zing and Hollenberg (1962)<sup>7</sup> in the repair of defects in long bones showed that it took some time for healing to take place. The jaws were immediately dissected out and fixed in 10 per cent formalin. They were decalcified in 5 per cent trichloroacetic acid and processed for embedding in paraffin blocks. Sections were then cut at approximately 7/ $\mu$  and stained by haematoxylin and eosin. After the sections were brought down to water, they were passed through picric acid for ten minutes before again being washed in water and placed in the haematoxylin. It was found that this stained the plastic implant a bright yellow and made it easier to identify in the sections.



FIGURE 1 Section of gingiva showing an implant that has been in situ for 64 days. Haematoxylin and eosin, x 5.

#### RESULTS

*Handling of the Material.*—The manufacturers supply the prepolymer and the catalyst already sterilized in jars. The amount supplied is far in excess of anything that was required for this experiment and an attempt was made to break down both the prepolymer and the catalyst into smaller and more economical units. The attempt failed because unknown to the investigator, the manufacturer bottles the two fluids in a slight vacuum and once the prepolymer has been exposed to the air, it starts to polymerize slowly. Even though the liquid was kept in a sealed bottle, polymerization took place in a few short weeks and hence the attempt to economize and store the material failed.

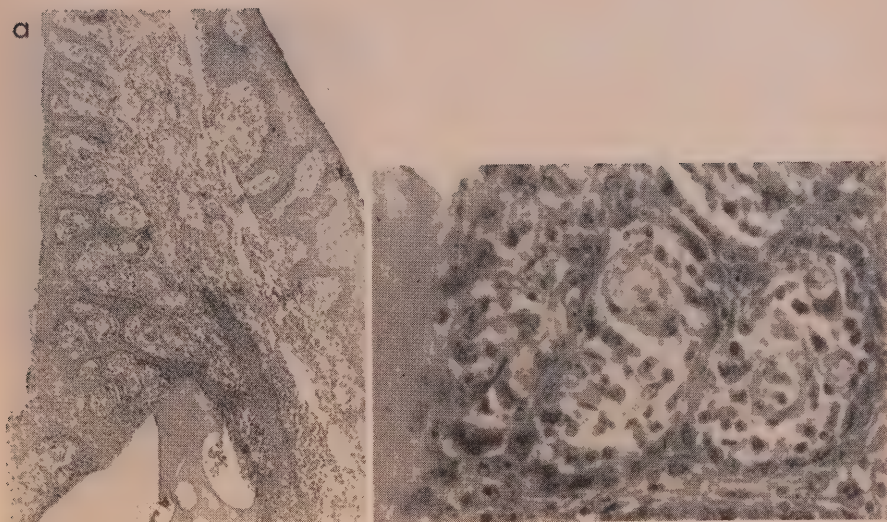


FIGURE 2 (a) Section of gingiva with an implant that has been in situ for 64 days, showing heavy round cell infiltration. Haematoxylin and eosin, x 5. (b) A higher power magnification of gingiva adjoining the implant that has been in situ for 64 days, to show the increased vasculature and round cell infiltration. Haematoxylin and eosin, x 200.

The two liquids are slightly viscous at ordinary room temperature but when heated to 120° F, they become less viscous and can be quite easily mixed together. Polymerization takes place within two to three minutes. The material becomes a thick cream-coloured mass which expands as setting takes place. It was found to be extremely sticky to handle either with the fingers, or with steel instruments such as dental plastic instruments, and well nigh impossible to pour into the small defects which were operated upon in the oral cavity of the dog. Although the manufacturers state that there is no exothermic reaction on polymerization, the material became unpleasantly warm and difficult to handle following mixing and prior to its setting as a hard mass.

It is apparently desirable to keep the field dry while inserting the material.

This was done as far as it was possible, but tremendous difficulties present themselves in the oral cavity.

*Histological Findings.*—In order to observe the healing that might occur in the alveolar bone around such a plastic implant, two areas were studied: first the gingival crevicular area, where a surgical intra-bony defect had been made and, secondly, in a tooth socket.

*Gingival Crevice Area.*—Here the plastic implant had remained in place for 64 days. There had been no marked clinical recession of the gingiva and the gingiva between the two teeth appeared reasonably healthy. However, when a blunt probe was passed between the tooth and the gingiva one could feel the implant still in place. Further probing to determine the extent of the pocket was not

carried out, because there was a possibility that the tissues might be unduly traumatized prior to histological study. On the control side there was complete healing of the gingiva, and on probing no pocket could be detected.

On microscopic examination the implant was still in place in the soft tissues of the gingiva (Figure 1). The marginal gingiva on the outer aspect of the implant showed a marked increase in the number of capillaries and they were distended with erythrocytes. In the adjoining connective tissue there was a heavy round cell infiltration (Figure 2).

Along the cementum and enamel aspects there had been a downgrowth of epithelium alongside the implant, apparently trying to wall off the area. The downgrowth of epithelium approaches the base of the implant and then interweaves with a dense connective tissue band which is formed between the implant and the crest of the alveolar bone (Figure 3).

In some areas the fibrous connective tissue has made attempts to invade the implant through the pores of the plastic. These areas are few and limited. In the superficial aspects of the implant there are to be found heavy collections of polymorphonuclear leucocytes within the pores, as well as areas showing cell degeneration and necrosis. It is interesting to notice that no foreign body giant cells were observed around the periphery of the implant; yet there were a few to be seen in the midst of the plastic.

No bone formation is taking place within the implant and this is to be expected since there is some inflammation present. However, around the periphery of the alveolar bone there is considerable osteoclastic activity. There is also the formation of new bone with osteoblasts.

Some of the cells around the implant show hydropic degeneration. There are a great number of histiocytes both within the implant and in the fibrous connective tissue surrounding it. Some of the plastic

material can be observed in this surrounding tissue and would appear to be associated with the histiocytes (Figure 4).

*Implants into Tooth Sockets.*—Clinically the healing appeared complete, there being complete closure of the overlying epithelium, both on the control and experimental sides.

After 85 days a similar situation was seen in these sections as there was around the implant in the gingival crevice, the main difference being an absence of acute inflammation and epithelial downgrowth. There was no bone to be seen forming in the implant and neither was there any ingrowth of fibrous or granulation tissue into the implant. Immediately adjacent to the implant there was a band of dense fibrous tissue with a heavy small round cell infiltration. This granulation tissue was surrounded by a fibrous band, the fibres of which ran parallel to the implant (Figure 5). Beyond this there was active bone resorption. Again very few foreign body giant cells were seen and the number of histiocytes appeared fewer than seen in the previous sections from the gingival area.

However, at 173 days there was a marked change. The implant had been broken up into much smaller pieces and there was widespread invasion by fibrous connective tissue (Figure 6). It is impossible to tell whether the *Ostamer* was just fragmented into smaller pieces by the invading fibrous tissue, or whether marked resorption occurred fragmenting the implant into smaller units. Probably both processes occur simultaneously, but it is impossible to say which one predominates. In some areas there were small amounts of woven bone formation (Figure 7). There were quite a number of foreign body giant cells to be seen in the connective tissue within the implant, but very few histiocytes. There was a general absence of either chronic or acute inflammatory cells in these sections. The whole area was surrounded by a dense fibrous connective tissue band.



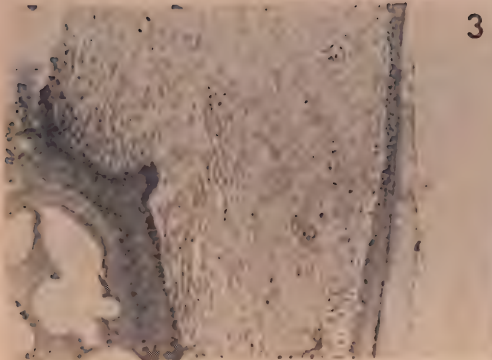


FIGURE 3 Section near the base of the implant that has been in situ for 64 days, showing downgrowth of epithelium around the plastic on the left and the epithelial "attachment" to enamel on the right. Haematoxylin and eosin, x 30.



FIGURE 4 Section showing active histiocyte activity around the implant that has been in place 64 days. Some of the histiocytes contain the plastic implant material within their cytoplasm, the nuclei being pushed to one end. Haematoxylin and eosin, x 200.

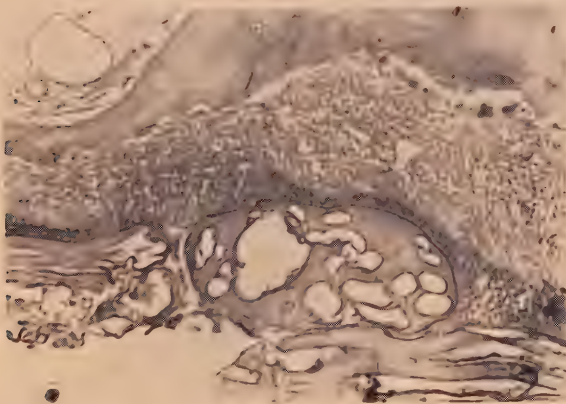


FIGURE 5 Implant in place in a tooth socket after 85 days. The section shows no tissue invasion of the implant. Around the periphery of the implant there is granulation tissue and fibrous tissue. Haematoxylin and eosin, x 30.



FIGURE 6 Section of implant that has been in place in a tooth socket for 173 days. It shows invasion of the implant by fibrous connective tissue and a few foreign body giant cells. Haematoxylin and eosin, x 30.

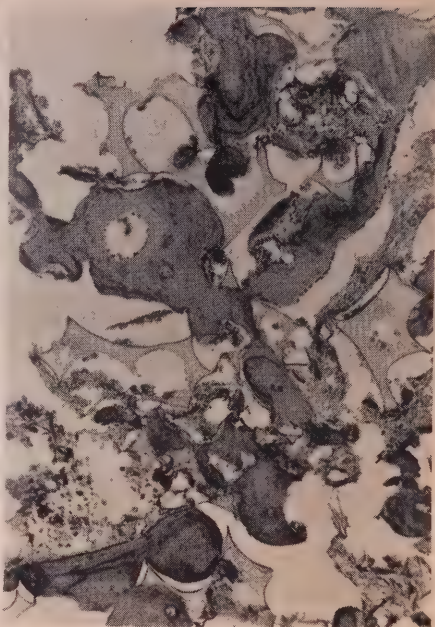


FIGURE 7 Section of implant that has been in place for 173 days showing woven bone formation in the pores of the plastic. Haematoxylin and eosin, x 30.

#### DISCUSSION

There is little doubt that there is a place in dental surgery for some form of implant material which will promote regeneration of bone in areas where bone has been lost usually due to chronic infection. However, it would appear that the material that was used in this preliminary study is not the most suitable for the results we wish to obtain.

A completely dry field and lack of infection may be possible in orthopaedic surgery but is practically impossible in the oral cavity. Thus the poor results may not be due to any fault in the material but rather to the environment in which it was placed. Nevertheless, there are inherent difficulties with this material in

the oral cavity, even presuming that moisture could be entirely excluded, and aseptically surgery possible. Once the plastic is mixed, there is a relatively short working time in which to place it into either the socket wound or beside the tooth. It is not an easy material to handle with either fingers or instruments and this would make it unsuitable for periodontal surgery in particular.

Histologically there are some interesting points.

Schram (1929)<sup>8</sup> and Shafer, Hine and Levy (1958),<sup>9</sup> in studying the healing in a socket following the extraction of a tooth by forceps in dogs, found that by 21 days the socket is filled by fine bone trabeculae. Both agree that remodelling continues for some time after this and

Schram reports that 48 days following extraction the alveolus is practically completely rebuilt with bone trabeculae, similar to the remainder of the alveolus. Radden (1959),<sup>10</sup> in a similar study in monkeys found practically the same rate of healing in tooth sockets as that found in dogs. Mangos (1941),<sup>11</sup> in a histological study of healing in human tooth sockets found that the socket was filled with bone at the end of 105 days.

The first thing then to be noticed in this study is that bone was not present in the healing socket at 85 days and there were only beginnings of bone formation at 173 days. In fact there would appear to be a considerable delay in the formation of new bone. When compared with previous studies in dogs and monkeys, the time it takes for bone to fill the socket would appear to be four times as great when this type of implant material is used.

It was also interesting to notice a lack of foreign body giant cell reaction in the earlier specimens when the predominant reaction was histiocytic in nature.

In general the implants appeared to act as foreign bodies, walling off the area by granulation and fibrous tissue, macrophage activity and delayed healing.

#### SUMMARY

1. A new polyurethane polymer was tested as an implant material in healing tooth sockets of dogs, and in the lateral periodontal tissues near the gingival crevice.

2. It appeared to delay bony healing in tooth sockets.

3. It did not induce regeneration of bone on the lateral aspects of a tooth.

4. There was primarily a histiocytic and inflammatory response to the implant.

5. The material was difficult to manage clinically.

6. It would appear that this material has not as yet any role in dental surgery.

#### RÉSUMÉ

*On a utilisé un nouveau polymère à base de polyuréthane, comme implant, dans des alvéoles dentaires, fraîches, chez des chiens et dans le tissu périodentaire latéral près de la crevasse gingivale. Apparemment, ce matériel a retardé la guérison de l'os dans les alvéoles. Il n'a pas aidé à la génération de l'os du côté latéral de la dent. Il y a d'abord eu une réaction inflammatoire et histiocytique à l'implant. Le matériel n'était pas facile à manipuler en clinique. Le résultat de cette expérience montre que ce matériel ne peut pas encore servir en dentisterie.*

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## Two dentists look at the hospital picture

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During the past three decades the profession of dentistry has undergone a most remarkable transition in its entire approach as a healing art. Looking back to the very beginnings of this profession, one will note that this transition involved a change from a highly technical to a broadly biological trend. This alteration in concept did not arise purely by accident. It grew out of experimental endeavour in various fields over a period of time. In this age of great advancement of the healing arts, dentistry has shown progress comparable to that of our sister profession, medicine, and consequently has earned the right to be considered on an equal plane. It is reasonable therefore, that, as a profession, dentistry has earned the right to take place in institutions of healing, such as hospitals.

The trend in modern hospitals today is towards a comprehensive or all-embracing type of service, and if our modern hospitals are to enjoy this reputation, one would imagine that dentistry should be included among the services available.

From a study of statistics compiled by the Hospital Services Committee of the Canadian Dental Association, it is apparent that only a few hospitals in this country offer a comprehensive dental service. Furthermore, it is equally apparent that only a few members of the dental profession enjoy hospital staff privileges. Whatever the reasons may be for the existence of these conditions, it is clear:

(a) That the profession of dentistry is more prepared than ever to take its proper place as a hospital service, and

(b) that hospitals would be offering a greater service by including dentistry among their other services.

For dentistry to function adequately and to contribute to its full potential, certain definite conditions must be established by way of raising the clinical and academic qualifications and standards of its personnel to the highest level. This must hold true on the undergraduate as well as graduate level. The profession must ensure the provision of proper programs of training and teaching, and consideration must also be given to the establishment of dental internship programs with adequate curricula of clinical and academic training.

All instructional personnel affiliated with programs of training and hospital appointment can best be selected through faculties of dentistry with the approval of the medical boards of the various hospitals concerned. Each hospital dental service must be governed by rules and regulations embodied in the by-laws pertaining to hospital staff, similar in nature to those governing the appointment and membership of medical staff personnel. The privileges of the dental staff must be clearly outlined with respect to duties and responsibilities.

Though it may be organized as a segment of the department of surgery, the dental service nevertheless must come under the direct supervision of a qualified member of the dental profession who, in turn, would be responsible to the chief of the department of surgery. However, wherever it is justified, the dental service should be organized into

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an independent and autonomous department, under a chief, who shall be a voting member of the medical advisory board of the hospital.

In our present systems of dental education even greater stress must be placed on the biological sciences. Dentistry is not merely a highly technical discipline, but one which deals with vital tissues. A thorough grounding in the basic sciences, therefore, is indispensable on the undergraduate level. Curricula concerning the basic sciences must extend far beyond the mere realm of the head and neck. They must include all organs of the body which may play some role in the consideration of dental treatment under varying circumstances. Knowledge of the difference between the functional and the dysfunctional, the normal and the abnormal or pathological must govern the manner in which dental care is to be administered. Greater emphasis must be placed on the inclusion of more extensive medical subjects in order that the scope of our knowledge may be broadened.

From the clinical aspect, the undergraduate dental student should be subjected more frequently to hospital routine and procedures in order that he may become more familiar with these practices in his student training. This will provide the student with a basic knowledge of the approach to dentistry as a hospital service.

On the postgraduate level, let us consider the importance of dental internships under an organized program of training. A dental internship is a postgraduate period of advanced clinical and academic training for the recent graduate, embracing all phases of clinical dentistry and co-ordinating the practical application of all the scientific and technical knowledge gained during the undergraduate years.

The prime purpose of such internships is to place the recent dental graduate in an environment which will afford him greater contact with the increasing variety of dental services, and which will

bring home an appreciation of the relationship between dental services and possible attendant medical conditions. The type of training which dental internship involves must, therefore, be considered as being very broad in scope.

Apart from proper academic and clinical training, there should be included ward rounds, clinico-pathological conferences, case reports and presentations, instruction in the preparation of scientific papers and regularly implemented departmental discussions between attending staff and dental interns. Over and above the actual departmental activity, there must also be attendance at regular hospital staff meetings. The entire program of dental internship is vastly improved by its integration with the other departments of the hospital. In such manner, the dental intern may be exposed to a far greater appreciation of the various departments which comprise a comprehensive hospital health service. This may work to the greatest advantage if a rotational system, similar to that of junior medical internships, is adopted.

#### CANDIDATURE FOR DENTAL INTERNSHIPS

Candidates for dental internships should be selected from among graduates of good academic standing, professing an interest in further postgraduate education, and/or intending to pursue further general training, specialty training, dental research, teaching or hospital dental staff endeavour on a full-time or part-time basis.

A dental internship often is the precursor to further postgraduate training in dental specialties. The term "dental specialist" connotes the completion of a prescribed period of study in a particular field and at an institution properly recognized for its qualifications in higher study in the respective field. Candidates professing specialist qualifications must exhibit evidence of certification in their specialty by having fulfilled such a prescribed course of training at a recog-

nized institution. Specialists of every description, and particularly in the field of oral surgery, should be numbered among the attending and consultant staff of any hospital dental service. These highly trained and competent individuals should be the backbone of all dental research and investigation connected with a hospital dental service.

In dentistry, as in medicine, the growth and future progress of the profession depends largely on research and eventual solution of the various problems arising in the course of daily practice.

Clinical and laboratory findings must be reported in true scientific fashion if the knowledge so gained is to be disseminated to the profession at large. Facilities of hospital laboratories should be available to those who pursue research projects, in accordance with the needs demanded by such projects.

#### INSTRUCTIONAL PERSONNEL

These must be selected from among those who are considered adequately qualified either in some dental specialty or in general practice. This group should also include personnel of the medical attending staff of the affiliated hospital, whose task it would be to instruct the candidates for dental internship in the various medical aspects of the training program.

#### RESPONSIBILITIES OF THE AFFILIATED HOSPITALS

The affiliated hospital must provide the proper dental equipment and supplies. It must place at the disposal of the dental program all the other facilities of the related services of the surgical and medical departments. It must also collaborate in the integration of this program by extending all the courtesies to the dental department which it may require in the discharge of its services.

#### CLINICAL AND ACADEMIC CONTEXT OF A DENTAL INTERNSHIP PROGRAM

*Dental Aspect.*—This phase of internship training should include instruction and supervision in all branches of dentistry which the dental department is capable of offering. The staffing of each branch and its supervision by qualified instructional personnel cannot be sufficiently stressed.

*Medical Aspect.*—This phase should include an organized program of instruction with the medical attending staff of the related hospital in order to afford the dental intern the opportunity to acquaint himself with the various medical and surgical aspects of hospital activity. Along these lines the departments of general medicine, surgery, pharmacology, bacteriology, haematology, anaesthesia, etc. may make invaluable contributions to the academic and clinical training of the dental intern.

*Clinico-Pathological Conferences.*—These should be held regularly at intervals of a few weeks with the dental intern presenting case reports in the presence of attending dental staff and, as the occasion may require, in the presence of medical staff as well. Through such conferences a review of the entire activity of the dental department is made possible, offering thorough discussion of the various aspects of treatment.

*Composition of Clinical Papers.*—During any period of dental internship, the dedicated intern may amass sufficient information on interesting cases to induce him to produce a clinical paper or papers. A hospital environment is most conducive from the material point of view to such opportunities. Definite instruction as to the manner of writing such a paper should be available to the intern, who might avail himself of the experience in contributing to scientific literature.



## CONCLUSION

The true concept of hospital dental service emerges as the scope of dental service in our hospitals is broadened and its standards are raised. National and provincial legislative dental bodies should work together in close liaison and co-operation to evaluate the degree of efficiency and to establish a minimum standard for accrediting a hospital dental

service. As the availability and frequency of dental internships increase, so, too, the value of such programs will grow. To the young undergraduate aspiring to further knowledge, the prospect of a dental internship should promise considerable opportunity for the acquisition of such knowledge. University dental faculties would do well to encourage their students to seek such internships.

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### Laboratory effectiveness of a two per cent stannous fluoride prophylaxis paste

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Both clinical and laboratory research have indicated the value of the topical application of stannous fluoride in a program of preventive dentistry. The observation that this compound was more effective than sodium fluoride stands as a milestone in dental research.<sup>1</sup>

For very obvious clinical reasons several attempts have been made to incorporate stannous fluoride in a prophylaxis paste. Segreto, Harris, and Hester<sup>2</sup> developed and evaluated a silix-silicone prophylaxis paste containing approximately 20 per cent stannous fluoride by weight. This high concentration of active ingredient demanded very careful use by the clinician and produced an unacceptable number of clinical complications. The performance of this formulation has

been evaluated by Wachtel.<sup>3</sup> In previous laboratory studies it was shown that an effective paste resulted when the silix and silicone were omitted from the formulation and ion-exchange (mixed bed) water was substituted therefor.<sup>4</sup> Additional experiments pointed out that much lower concentrations of stannous fluoride were effective in topical applications<sup>5</sup> and in aqueous prophylaxis pastes.<sup>6</sup>

The present study was designed to determine the *in vitro* effectiveness of a prophylaxis paste containing only 2 per cent stannous fluoride. Of further interest was the effect of combining such prophylaxis treatment with topical application of stannous fluoride.

#### MATERIALS AND METHODS

Extracted human molars and bicusps were cleaned thoroughly and refrigerated in ion-exchange water until used. Grooves, fissures, enamel discontinuities,

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The opinions expressed herein are those of the authors and are not to be construed as necessarily representative of U.S. Air Force policy.

and root surfaces were covered with molten sticky wax. The remaining enamel surface was exposed to two consecutive 30-minute decalcification periods in 0.025 molar lactic acid with the fluoride treatment under test being applied in the interval between the decalcification periods. The tooth was then discarded. Thus, for each tooth two acid solutions were available for analysis, one for the period before and one for the period after treatment. The phosphorus content of the acid solutions was measured automatically by the method of Fiske-Subbarow<sup>7</sup> as adapted to the AutoAnalyzer. The difference in the amounts of phosphorus withdrawn from the enamel surface before and after fluoride treatment was taken as a measure of the protection afforded:

$$P = \frac{A-B}{A} \times 100$$

where A = mcg phosphorus withdrawn from the crown surface before and B = mcg phosphorus withdrawn after treatment. Tooth preparation, acid exposure method, and the performance of the analytical procedure have been presented in detail elsewhere.<sup>4</sup>

The present study was divided into four related experiments:

1. In a control experiment, 100 teeth were subjected to two successive 30-min-

ute decalcification periods with no protective treatment given between periods.

2. A 10 per cent aqueous stannous fluoride solution was added to flavoured (peppermint-anise) silex to prepare the prophylaxis paste. Sufficient diluent was employed to provide a final stannous fluoride concentration of 2 per cent by weight in the paste. The paste was applied to the crown surface in a rubber cup turning at 1,100 r.p.m. over a 1-minute period.

3. A portion of the 10 per cent aqueous stannous fluoride solution was tested as a conventional 4-minute topical application.

4. A final group of teeth was subjected to the combined 1-minute prophylaxis and 4-minute topical application.

Testing intervals and sample sizes for experiments 2, 3 and 4 are outlined in Table 1. The teeth were assigned at random from a common pool of teeth to each of the four groups.

## RESULTS AND DISCUSSION

It is to be emphasized that the age intervals in the present study refer only to the age of the stannous fluoride solution. Since fresh mixtures of the solution

TABLE 1 Means and standard error for protection\* afforded by various methods of application.

| Age of<br>SnF <sub>2</sub><br>solution | Type of treatment |                 |                     |                 |                                         |                 |
|----------------------------------------|-------------------|-----------------|---------------------|-----------------|-----------------------------------------|-----------------|
|                                        | Prophylaxis       |                 | Topical application |                 | Prophylaxis plus<br>topical application |                 |
|                                        | n                 | Mean $\pm$ S.E. | n                   | Mean $\pm$ S.E. | n                                       | Mean $\pm$ S.E. |
| Fresh                                  | 50                | 76.3 $\pm$ 1.44 | 10                  | 76.4 $\pm$ 2.86 | 10                                      | 88.0 $\pm$ 2.33 |
| 1 week                                 | 35                | 75.9 $\pm$ 1.41 | 9                   | 74.4 $\pm$ 2.75 | 10                                      | 90.0 $\pm$ 0.76 |
| 2 weeks                                | 19                | 85.6 $\pm$ 1.37 | 19                  | 83.7 $\pm$ 1.87 | 20                                      | 89.8 $\pm$ 0.81 |
| 4 weeks                                | 20                | 84.2 $\pm$ 1.49 | 20                  | 78.2 $\pm$ 2.63 | 20                                      | 90.3 $\pm$ 0.92 |
| 8 weeks                                | 10                | 84.2 $\pm$ 3.25 | 10                  | 77.4 $\pm$ 2.06 | 10                                      | 87.5 $\pm$ 1.70 |
| 22 weeks                               | 10                | 81.6 $\pm$ 2.88 | 10                  | 76.2 $\pm$ 3.12 | 10                                      | 86.9 $\pm$ 2.05 |

\*Based on phosphorus withdrawn before and after treatment. For a control sample of 100 teeth the protective index was  $-9.61 (\pm 1.77)$  per cent.

TABLE 2. Analyses of variance at each storage time.

| Storage time | Source             | df | Mean square | F     | P     |
|--------------|--------------------|----|-------------|-------|-------|
| Fresh        | Between treatments | 2  | 1,193.1765  | 37.16 | <.001 |
|              | Within treatments  | 67 | 52.8357     |       |       |
| 1 week       | Between treatments | 2  | 864.1695    | 14.83 | <.001 |
|              | Within treatments  | 51 | 58.2770     |       |       |
| 2 weeks      | Between treatments | 2  | 191.7670    | 5.03  | <.01  |
|              | Within treatments  | 55 | 38.1308     |       |       |
| 4 weeks      | Between treatments | 2  | 733.2605    | 11.06 | <.001 |
|              | Within treatments  | 57 | 66.3258     |       |       |
| 8 weeks      | Between treatments | 2  | 264.8160    | 4.48  | <.025 |
|              | Within treatments  | 27 | 59.0813     |       |       |
| 22 weeks     | Between treatments | 2  | 285.6905    | 3.85  | <.05  |
|              | Within treatments  | 27 | 74.1470     |       |       |

with abrasive were prepared at each testing interval the compatibility of stannous fluoride with the abrasive was not a consideration. A previous report from this laboratory has dealt with the incompatibility of calcium pyrophosphate and an aqueous stannous fluoride solution.<sup>8</sup>

For the 100 teeth in the control experiment, a mean protection of  $-9.61$  (S.E.  $\pm 1.77$ ) was found. The difference between this mean value and zero was significant ( $P .001$ ). In a previous study<sup>5</sup> a mean protection of  $-9.95$  per cent was reported. There seems no doubt that on the average a larger amount of phosphorus is removed by the second exposure to lactic acid than by the first exposure when no treatment is given to the tooth between immersions.

The results obtained with the three fluoride application procedures under test are outlined in Table 1. Findings are expressed as mean per cent protection and are based on differences in the amount of phosphorus lost by crown surfaces before and after treatment.

Separate analyses of variance were computed for each storage time (Table 2). A significant difference between treatments was found at each storage time. When these between-treatment differences were "t" tested, the following conclusions could be drawn: (a) the sig-

nificant "F" tests for the first three storage times (fresh, 1 week, and 2 weeks) were due to the prophylaxis plus topical treatment being significantly more effective than the other two treatments; (b) the results for prophylaxis alone and topical application alone were not significantly different; and (c) over the last three storage times (4, 8, and 22 weeks) the response was not so consistent, but there was an indication that the prophylaxis plus topical application was significantly superior to the prophylaxis alone and, further, that the prophylaxis alone was superior to the topical application alone. This held true at the 4-week storage interval when there were 20 teeth for each treatment, but not at the 8 and 22-week storage times, where there were only 10 teeth per treatment. There was no doubt that the prophylaxis plus topical treatment was superior to the topical alone at these storage times but, except at the 4-week interval, it was not possible to rate the prophylaxis alone to the other treatments.

The analyses of variance for each treatment procedure are presented in Table 3. A significant difference related to storage time was indicated only by the data for the prophylaxis treatment. Storage time improved the effectiveness of this



TABLE 3 Analyses of variance for each treatment.

| Treatment                            | Source           | df  | Mean square | F    | P     |
|--------------------------------------|------------------|-----|-------------|------|-------|
| Prophylaxis                          | Between storages | 5   | 482.5500    | 6.27 | <.001 |
|                                      | Within storages  | 138 | 76.9913     |      |       |
| Topical application                  | Between storages | 5   | 156.8162    | 1.78 | NS    |
|                                      | Within storages  | 72  | 88.3093     |      |       |
| Prophylaxis plus topical application | Between storages | 5   | 26.7162     | 1.13 | NS    |
|                                      | Within storages  | 74  | 23.6096     |      |       |

treatment, this observation being in accord with our past findings.<sup>6</sup> This was not a function of the time of exposure of the solution to abrasive since, in all instances, fresh pastes were prepared immediately prior to testing. We have consistently found that fresh stannous fluoride solutions are less effective when employed as paste constituents and, further, that certain of our completely prepared experimental prophylaxis pastes require aging to develop maximum effectiveness. In the present study another factor is present that may account for the significant change being found only with the prophylaxis. Relatively large groups of teeth, 50 and 35, were treated by prophylaxis when the stannous fluoride solution was fresh and one week old, respectively. The actual difference between means for the topical application is approximately as great as with prophylaxis and the lack of significance may be due largely to the smaller sample size for the groups that happen to present low means.

It is not to be implied that the topical application of stannous fluoride, even in the patient receiving stannous fluoride prophylaxis, is in any way contra-indicated by the results of this study. It is only in the topical application results that virtually universal agreement of effectiveness is found between clinical and laboratory investigators. The results indicate, on the other hand, that the incorporation of a small amount of stannous fluoride in prophylaxis paste is surprisingly protective and that the combined

paste plus topical approach is the treatment of choice. Since prophylaxis is recommended prior to topical application, the dual application of stannous fluoride suggested by these results makes no additional imposition on the clinician's time.

#### SUMMARY

A comparison was made of the *in vitro* effectiveness of three methods of stannous fluoride application in reducing enamel solubility: (1) two per cent stannous fluoride prophylaxis paste alone; (2) ten per cent aqueous stannous fluoride topical application alone; (3) combined prophylaxis paste and topical application.

The results obtained with the prophylaxis paste alone and the topical application were found not to differ significantly.

The prophylaxis plus topical application was found to be the treatment of choice.

There was no deleterious effect of storage time on these compounds. On the contrary, the prophylaxis treatment increased in effectiveness with the passage of time.

#### RÉSUMÉ

Les auteurs ont comparé les effets "in vitro" de trois techniques pour appliquer le fluorure d'étain de façon à réduire la solubilité de l'émail: (1) une pâte à pro-

phylaxie contenant 2 pour cent de fluorure d'étain; (2) une application de solution aqueuse de fluorure d'étain à 10 pour cent; (3) l'usage de pâte prophylaxie suivie d'application topique de solution.

Les résultats obtenus avec la pâte seule et avec l'application seule de solution furent à peu près semblables.

La combinaison de pâte et de solution a semblé être le traitement de choix.

Ces substances n'ont pas semblé s'altérer avec le temps. Au contraire, le traitement avec la pâte à prophylaxie a semblé produire de meilleurs effets à mesure qu'elle vieillissait.

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## case reports

### Oral melanosis of undetermined origin

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The pigmentary abnormalities due to disturbances in melanin function, constitute some of the more complex and interesting problems in medicine and dentistry. The increase in the numbers of recently published articles attests to the renewed interest afforded this subject by the medi-

cal profession today. There are only a few disease entities in which the clinical signs of vermilion border pigmentation are seen: Addison's disease, Peutz-Jegher syndrome, Fanconi syndrome, heavy metal poisoning, haemachromatosis, and hypervitaminosis D. Physiologic pigmentation, though not associated with any disease, is also a clinical entity. A case in point is reported.

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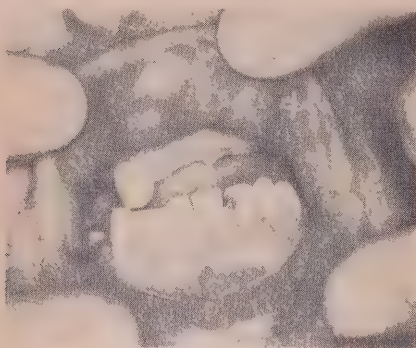


FIGURE 1

## CASE REPORT

**History and Examination.**—A 30-year-old patient with a history of bleeding after extractions was referred to the dental department of the Canadian Forces Hospital, Toronto, Ontario for extraction of all remaining teeth. The referring dentist queried the peculiar pigmentation present on the lips. A medical investigation was ordered to study the bleeding mechanism and for elucidation of the nature of the oral pigmentation.

The patient stated that the pigmentation in his mouth and a tendency to bruise easily had been present for as long as he could remember. He recalled cutting his wrist badly when he was twelve years old. He stated that he had nearly died due to blood loss. Minor cuts such as those sustained while shaving sometimes bled for an hour or more. He never had a nose bleed or a gastrointestinal haemorrhage. When he was seven years old, he had a tonsillectomy with no excessive bleeding. There was no family history of bleeding tendency. His brothers and sisters had undergone operations without haemorrhagic complications.

His personal habits were not unusual. The patient was not a painter. No history of exposure to heavy metals could be elicited.

The only serious injury sustained by the patient was the cutting of his wrist on a broken window, at age twelve years. He has otherwise enjoyed good health. He had never been treated for tuberculosis and had no symptoms of this disease.

On physical examination, the patient was a well-developed, well-nourished, white male who looked his stated age of 30. He appeared to be in good health, both physically and mentally. There was a generalized lymphadenopathy but the lymph glands were only slightly enlarged, soft and not tender. His colour was normal; he was not cyanosed or jaundiced; his skin was fair, clear of freckles and blemishes and of normal texture. The hair was normal in distribution and texture.

The oral examination revealed a poorly maintained mouth with many missing teeth. A well demarcated type of pigmentation was seen covering the inner surfaces of the cheeks and most of the lips to the edge of the vermillion borders (Figure 1).

The only abnormality noted on medical investigation was a standard clotting time of 19 minutes. This was the only clearly demonstrated defect in blood coagulation found. A gastrointestinal series of radiographs showed a normal stomach, duodenum and small bowel. A small bowel series of radiographs was essentially negative with no areas of polypi demonstrated within the colon. A sigmoidoscopy was negative. The barium enema demonstrated no significant abnormalities. The mucosal pattern in the caecum area, however, was noted to be somewhat unusual.

**Treatment.**—Following medical investigation the patient's teeth were extracted by segmental clearance under local anaesthesia with no untoward bleeding. The patient was discharged with a notation for medical recall and gastrointestinal investigation at suitable intervals.

## DISCUSSION

Various causes of oral pigmentation must be considered in the differential diagnosis. But by the process of exclusion this appears to be a *prima facie* case of Peutz-Jeghers syndrome.

In Addison's disease, the lips may show this type of pigmentation. The patient is usually unwell. The diagnosis is suggested by the pigmentation, weight loss and hypotension. In severe deficiencies, haemo-concentration, low serum sodium and chloride, and high serum potassium are observed. The most direct diagnostic procedure consists of the demonstration



of the lack of adrenal cortical response to the administration of ACTH. Clinically, bronze-coloured spots of pigmentation are seen suggestive of this disease, though similar areas are seen in patients with haemachromatosis. Prolonged ACTH therapy has been shown to produce skin pigmentations indistinguishable from that seen in Addison's disease or following complete bilateral adrenalectomy in men.<sup>1</sup>

Addisonism is a syndrome sometimes present in pulmonary tuberculosis. Dark pigmentation of the skin is noted as well as loss of weight and strength, and resembles true Addison's disease.

Fanconi's syndrome is a form of pancytopenia grouped in the general classification of aplastic anaemias with hyperplastic bone marrow and is seen usually in the younger age groups. It may be associated with a variety of congenital defects. A generalized olive brown pigmentation of the skin and lips occurs.

Haemachromatosis is a disease characterized by skin pigmentation, cirrhosis and diabetes mellitus, accompanied by excessive depositions of iron-containing pigments in the liver and pancreas. Eighty per cent of the cases in one series showed skin pigmentation and 16 per cent of these involve the mucous membranes.

Brownish pigmentation of the skin has been reported in hypervitaminosis D<sub>2</sub>, a condition which develops after greatly increased vitamin D intake. Similar pigmentation, but more widely spread over the face and hands and arms, is also seen in Sprue. Areas of brown (*café au lait*) cutaneous pigmentation of the face are seen in polyostotic fibrous dysplasia. In von Recklinghausen's disease pigmentation may also be seen in the areas of the skin lesions. It is reported that these pigmented areas have been noted in association with neuro-fibromatosis in areas discrete from the skin lesions<sup>3</sup> as well. The mucous membranes may be involved in both diseases. The pigmented areas are the same as freckles microscopically but are larger and more variably shaped, are

only few in number and may appear on any part of the body.

Heavy metal poisoning often results in pigmentation of the oral tissues which can extend to the lips. The skin discolouration may be mistaken for cyanosis associated with heart disease. Bismuthism also can exhibit pigmentation of the lips. Silver poisoning consists of a generalized and sometimes localized slate-coloured pigmentation due to deposition of silver granules in the dermis and the sweat glands.

Physiological pigmentation, the term applied to melanin deposition in the oral mucosa, is not associated with pathological changes. It is usually found in people of darker complexions and most commonly in Negroes. It is most often seen as melanosis gingivae but the lips can be involved.

The Peutz-Jegher syndrome is a comparatively rare condition of polyposis of the gastrointestinal tract, associated with pigmentation of the skin and buccal mucosa. It was first described by Peutz in 1921. Jegher in 1949 reviewed the literature and, adding a further 10 case histories, elaborated on and established the syndrome as a clinical entity. In 1957 thirty-three proven cases were reviewed by Fung<sup>4</sup> and since that time a great many more have been reported in the literature.

The syndrome has the following features:

1. Pigmentation appears early in life involving the lips, buccal mucosa, and often the skin of the face and digits. This pigmentation which has a tendency to fade with age is due to melanin deposition in vertical bands in the epidermis.<sup>5</sup>

2. Multiple polyposis develops in the gastrointestinal tract.

3. It seems to be inherited as a simple Mendelian dominant characteristic, with an occasional omission in some series though sporadic cases do occur.

4. The incidence is not modified by race or sex but is more common in patients of dark complexion.

5. The polypi can cause bleeding, diarrhoea, ileus or intussusception, and can undergo malignant changes.

Since the polypi are difficult to diagnose both clinically and radiologically, the skin lesions are of great diagnostic value. Acanthosis nigricans and Peutz-Jeghers syndrome are both rare diseases but they illustrate how skin pigmentation can lead to a diagnosis of internal disease. The characteristic skin changes in acanthosis nigricans consist of brown or black symmetrical pigmentation particularly on the neck, and large body folds.

In about 50 per cent of the cases<sup>6</sup> these skin changes are associated with internal cancers, especially of the lungs, breast and abdominal viscera. Although the case described here did not present with intussusception or demonstrable polyposis, the unusual caecum mucosal pattern and the unexplained pigmentation demonstrates the importance of differential diagnosis in lip pigmentations.

## SUMMARY

A case of oral melanosis of undetermined origin is presented. The patient, a 30-year-old white male, presented with oral pigmentation, a somewhat unusual mucosal pattern in the caecum area and a bleeding tendency. The finding of pigmentation and bleeding tendency together are considered coincidental. This report concerns itself with the differential diagnosis of oral pigmentation.

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## abstracts

### EPIDEMIOLOGICAL STUDIES OF DENTAL DISEASES IN THE STATE OF KERALA: 1. PREVALENCE AND SEVERITY OF PERIODONTAL DISEASE

*O. P. Gupta, J. All India D. Assoc. 35:45, 1962.*

Relatively few studies have been conducted in India to find the prevalence of periodontal disease. Most studies have been conducted in the northern part of the country and there is no information available as to the prevalence and severity of any of the dental diseases in the southern part of India. The southern part is different topographically and in relation to socio-economic and dietary habits of the people from the northern part.

The present study was undertaken in an attempt to find the prevalence and severity of periodontal disease among a small cross-section of population of the state of Kerala and also to relate various aetiological factors, namely — calculus, dietary factors, occlusal traumatism, betel chewing, socio-economic factors, educational level and the level of oral hygiene.

A team of four examiners were closely calibrated for the evaluation of the extent and severity of periodontal disease according to the method of Russell. The four examiners conducted dental examinations of 800 healthy people of Kerala coming from various walks of life. The examinations were done at the medical college, Trivandrum booth at the All India Arts and Crafts Exhibition which is held once a year in the state of Kerala. Periodontal disease was measured by the method of Russell. According to this method involvement of periodontal tissues around the tooth is recorded in terms of

the following graduations: 1 = gingivitis limited to one aspect (buccal or lingual); 2 = gingivitis affecting both the buccal and lingual surfaces; 6 = presence of periodontal pockets (generally slight mobility of the tooth is present); 8 = deep periodontal pockets, suppuration, severe mobility, and tooth not in function. All examinations were done with the aid of a mouth mirror and an explorer while the patient was seated in a modern dental chair. Uniform artificial lighting was maintained during all the examinations.

Between the ages of 11 - 20, 90.3 per cent of subjects were affected with periodontal disease. However, the majority of the periodontal lesions were minor and were limited to the gingival tissues. Only 15.5 per cent showed periodontal pockets and only 1.3 per cent had extensive lesions.

In the 21-30 age group, the overall incidence of periodontal disease increased from 90.3 per cent to 96.7 per cent. Although the increase was not very high, the severity of the lesions increased considerably. Highly extensive lesions increased five times while moderately severe lesions increased more than three times. Gingival lesions decreased by 50 per cent.

The prevalence of periodontal disease was 100 per cent in the age group 31-40. The gingival lesions showed a certain decrease from 41.1 per cent to 12.4 per cent, while the severe and moderately severe lesions increased twofold.

In subjects over age 40 the prevalence of periodontal disease was 100 per cent. Periodontal lesions confined to gingival tissues showed a further reduction while lesions of extensive severity increased  $2\frac{1}{2}$  times. The moderately advanced lesions showed a slight decrease.



The prevalence and severity of periodontal disease decreased with increase in income. Although the decrease of periodontal scores was not highly significant in the 20-30 age group, it was moderate to highly significant in the 30-40 age group. The data appeared to indicate that socioeconomic status may have a relation to the initiation and progression of periodontal disease.

Eighty-six per cent of the people of Kerala use a finger to clean their teeth; only 14 per cent use a toothbrush. Significantly higher periodontal disease was found amongst those who use a finger rather than a brush.

The average periodontal disease score increased steadily with the increase in calculus deposits.

Periodontal disease amongst the people of Kerala is extremely prevalent at all age levels. The prevalence and severity of the disease increases with age. The reasons for the high prevalence of this disease cannot be specifically explained. However, it appears that oral hygiene and good nutrition are two important factors which are intimately related to the disease. The nutritional intake of an average Keralite is poor in quality. The majority of the people of Kerala use a finger to clean their teeth. Although the prevalence of periodontal disease is generally high in India, the low nutritional standards and neglect of proper oral hygiene may have contributed to the high prevalence of this disease among the people of Kerala.

With increase in the family income, the incidence of periodontal disease decreases. The reason for this decrease is not known. Perhaps with the increase in income, people give more attention toward their oral hygiene.

The results of this study also suggest that deposits of calculus may significantly

contribute toward the development of periodontal disease. Other investigators, however, have observed no clinical periodontal lesions in areas where heavy deposits of calculus are present. Further studies are needed to establish conclusively the relationship of calculus deposits and periodontal disease.

#### DIETARY PHOSPHATE AND CARIES SUSCEPTIBILITY

A. E. Sobel, *D. Progress* 2:192, April 1962.

Studies of the effect on mineralized tissue of the mineral compositions of diet and body fluids led to the postulate that high-phosphate diets induced caries resistance in teeth. This seemed so because high-phosphate diets caused a lowering on the enamel surface of carbonate, which is soluble and relatively vulnerable to the caries process. Experiments in the cotton rat (fed a high-sugar, cariogenic diet) showed that high-phosphate diets could reduce by four times the extent and number of carious lesions. Other studies have shown that high-phosphate diets decrease the phosphate content of blood serum and saliva, as well as alter the composition of teeth. The mechanism of phosphate's cariostatic action has yet to be worked out. It may be any one of, or a combination of the following: altered composition of the tooth; direct action of saliva on the solubility of tooth minerals; neutralization of bacterial acids in the mouth. It may also be that dietary phosphate may be a useful caries-prevention adjunct to fluoridated water.

## **1,500 dentists register at Toronto convention**

The meeting halls are silent. The speakers and the audience have departed. Only the odd crumpled program, the cold butt of an extinguished cigarette, the scrap of paper with some scribbled notes remain among the empty tables and chairs where earlier 1,500 men and women had gathered to listen, to learn and engage in animated discussion of their work. And so the Sixty-Second Annual Meeting has become part of the history of the Canadian Dental Association. For those who were so unfortunate as to have missed the meeting, the news section of this issue carries a condensed account of the convention program and the actions of the Board of Governors. In future issues of the Journal there will be published many

of the scientific and other presentations for which this convention was notable.

Over 225 entries submitted to the arts, crafts, and flower show reflected another facet of the talents of Canadian dentists. A special production by Mavor Moore of the well-known revue, "Spring Thaw," and the gala banquet and candlelight ball in honour of the presidents of the Canadian and Ontario Dental Associations provided the social highlights of the convention activities.

To convention chairman J. D. Purves and the members of his committee Canadian dentists owe a real debt of gratitude for their tireless efforts which made this an outstanding scientific meeting, a delightful gathering—a convention that will long be remembered.

## **C.D.A. pension and insurance plans are still the best after ten years**

In 1952 the Canadian Dental Association was instrumental in making available to dentists individual insurance coverage against the hazards of accident, sickness and death. The premium rates for these plans were more favourable than any

which could be obtained elsewhere at that time. Over the years the range of these plans has been considerably extended and they have been substantially improved. They now offer pension-assurance, hospitalization, retirement-savings,

office overhead, extended health care, group sickness and accident disability protection.

Two members of the Canadian Dental Association appointed by the Board of Governors have acted as trustees of these plans on behalf of and in the interest of members of the Association. How well they have discharged this mandate is reflected by the fact that more than 3,500 dentists now participate in some aspect of this program.

When a service of this kind gains favour it is, of course, inevitable that other vendors will try to offer competing plans of their own. This is what has happened and, quite naturally, some dentists have from time to time harboured doubts as to whether the C.D.A.-sponsored plans would give them the best possible value for their premium dollars.

Accordingly, at the direction of the Board of Governors, the Executive Council and insurance trustees last year retained the services of an independent actuarial firm to make a thorough examination of plans sponsored by the Association. The summary report of this firm, the Wyatt Company, published elsewhere in this issue of the Journal, is most favourable. According to the report, "... the dental profession insurance plan of the Canadian Dental Association is well established, soundly and safely insured, and properly administered . . . This is an excellent service provided by the Association and it is very beneficial to the membership."

In other words, participating dentists still get better value for their money from C.D.A.-sponsored plans than from any other plans.

Bureaux • committees • councils

## **Dental profession pension insurance plan of the Canadian Dental Association**

*Executive Council and Pension-Insurance Trustees*

Following the completion of ten years, of operation of the Canadian Dental Association pension insurance plan, the Association and the trustees requested an independent actuarial firm, the Wyatt Company, to examine and analyse the plan within the following terms of reference adopted by the Association:

1. To examine and report on the operation of the plan;
2. To report on the premiums and benefits of the existing contract in relation to what members of the Association otherwise could obtain; and
3. In general, to report on the position of the Association in the insurance market.



The report prepared by the Wyatt Company consists of five sections. Section 1 summarizes the agreement of trust (1952) between the Association and Professional and Industrial Pensions Limited, the administrator of the plan. Section 2 summarizes the history and development of the plan. Section 3 gives a summary of the benefits now available to members of the Association. Section 4 comments on present benefits and rates with comparisons to competitive offerings. Section 5 gives conclusions. The general conclusions are as follows:

"Since its organization in 1952, the Canadian Dental Association plan has been extended substantially to the point where it provides broad coverages against the hazards of accident, sickness and death. It is evident to us that the administrator continues to remain abreast of all developments in the insurance market and is continually seeking ways and means of expansion and development of the C.D.A. plan to meet changing conditions in the overall needs of the members consistent with the initial objective of providing coverages at lower cost than can be obtained by the public in the general insurance market.

"In support of the comments in the preceding paragraph, it is interesting to note that in the January 26, 1963 issue of *Business Week* is an editorial under the heading, "Personal Business," describing "insurance to hedge against your loss of income" and "policies to keep office open." The editorial describes coverages similar to the individual non-cancellable guaranteed renewable policy coverages and the office overhead expense group plan of the Canadian Dental Association. The implication is that these are relatively new. The Association is to be commended on the fact that these coverages have been well established for the bene-

fit of the members for some time.

"The present underwriters of the coverages provided under the C.D.A. plan are well established and sound. The present underwriter of the C.D.A. pension assurance plan, The London Assurance, in addition to its deposit of \$200,000 with the Department of Insurance in Ottawa has the backing for its Canadian life insurance policies of the substantial assets of the life business of the company everywhere. The fact that the Beacon Insurance Company Limited indirectly is a wholly-owned subsidiary of The London Assurance ensures that it will continue to have sound backing for the policies which it will continue to administer. It would appear that even in the event of catastrophic losses The London Assurance group will have adequate financial resources to meet their claims.

"The Mutual of Omaha Insurance Company, formerly the Mutual Benefit, Health and Accident Association, is well established and has adequate assets and resources to meet its claims and to carry out its contracts.

"The investment management of the registered retirement savings contributions of the members is conducted by one of the top ranking trust companies in Canada, the Royal Trust Company, with adequate assets and facilities to continue the Canadian Dental Association registered retirement savings plan to the satisfaction of the members and the Association.

"In summary, in our opinion, the dental profession insurance plan of the Canadian Dental Association is well established, soundly and safely insured, and properly administered."

The Wyatt Company is on record also as stating: "This is an excellent service provided by the Association and it is very beneficial to the membership."

## **Zimmerman is president, Langlois president-elect; 3,000 attend Toronto national convention**

On Monday May 20, approximately 3,000 dentists and guests from all parts of Canada gathered at the Sixty-Second Annual Meeting of the Canadian Dental Association in Toronto. A comprehensive scientific program, embracing panel discussions, essays, closed circuit television clinics, projected clinics, table clinics, motion pictures, scientific and technical exhibits, presented the latest information available on all aspects of dentistry. The annual meeting of the Board of Governors, held from May 15-18, preceded the convention. The members of the Board, in considering the nation's dental health problems, set policies of the Association for the coming year.

James Zimmerman of Calgary was installed as 43rd president of the Association

at the noon luncheon, May 20. He succeeds M. V. J. Keenan of Sudbury, Ontario. A past president, J. W. Clay, also of Calgary, officiated at the installation.

Born in Russia, Dr. Zimmerman came to Canada at an early age. Following graduation from Toronto's Royal College of Dental Surgeons dental school in 1921, he practised at Taber, Alberta, before moving to Calgary. A past president of the Calgary and District Dental Society and the Alberta Dental Association, Dr. Zimmerman has represented Alberta on the C.D.A. Board of Governors since 1955. He is a fellow of the American College of Dentists.



Rémy Langlois,  
President-elect.

James Zimmerman,  
President.

Rémy Langlois of Quebec City was named president-elect of the Association. A member of the Executive Council, Dr. Langlois has also been a member of the Board of Governors, representing the College of Dental Surgeons of the Province of Quebec.

Named as members of the Executive Council were P. S. Christie of Halifax, J. P. Coupland of Ottawa, W. J. Riley of Winnipeg, and W. P. Munsie of Vancouver.

Elected as chairmen of councils and committees were James Zimmerman of Calgary, Executive Council; H. M. Cline of Vancouver, Council on Constitution and By-Laws; J.-P. Lussier of Montreal, Council on Education; J. P. McGuigan of Halifax, Council on Ethics; J. D. Purves of Toronto, Council on Journalism; A. H. Crowson of Ottawa, Council on Legislation; A. R. S. Gray of Calgary, Council on Public Health; K. J. Paynter of Toronto, Council on Research; H. R. MacLean of Edmonton, Auxiliary Services Committee; Ross Stuart of Edmonton, 1964 Convention Committee; W. G. McIntosh of Toronto, Dental Services Committee; R. P. Lowery of Toronto, Headquarters Property Committee; A. A. Antoni of Toronto, Hospital Services Committee; F. H. Compton of Toronto, Necrology Committee; Rémy Langlois of Quebec City, Nominations Committee; M. A. Rogers of Montreal, Specialists and Specialization Committee; and G. Baril of Montreal, War Memorial Awards Committee.

Honorary memberships in the Canadian Dental Association were conferred on a prominent Canadian educator, A. C. Lewis of Toronto, and on former Association president H. W. Reid, also of Toronto.

The Ontario Dental Association was the host organization for the joint meeting. Local arrangements were made by Toronto dentists acting under the direction of J. D. Purves, convention chairman.

## BOARD OF GOVERNORS ACTIONS

At the opening session members of the Board of Governors and others in attendance rose for one minute of silence in tribute to Association members who died during the past year.

The Board considered reports submitted by each of the Association's bureaux, committees and councils and took the indicated action in the following matters:

Confirmed Vancouver and Winnipeg as locations for the 1968 and 1970 annual meetings;

Approved the treasurer's report and adopted a budget in excess of \$295,000 for the year 1964;

Affirmed the necessity of an approved

fee schedule in each province as a basis for negotiation of dental service plans with governmental or other bodies;

Approved measures (which facilitate the exchange of information and permit conditional financial aid) to encourage the establishment of dental service corporations and dental service plans; and

Received from the Dental Services Committee a progress report on the development of a relative value system for the determination of fees.

In other actions the Board also:

Directed the Dental Services Committee to (1) pursue studies on orthodontic services in a prepaid dental plan; (2) continue the Canadian Dental Association's group purchase staff dental care plan for a further year and set a suitable premium for this plan as soon as possible; and (3) complete the revision of the Association's policy on health insurance;

Directed the Executive Council to examine possible discrimination against dentists seeking remuneration for rendered oral surgical services covered by insurance plans;

Urged Association support for the efforts of corporate members who seek the inclusion of dental services in provincial public hospitals acts;

Approved an amendment to Article V of the Constitution and By-laws to permit representation on the Board of dentists employed by federal government services;

Received a progress report on the Canadian Fund for Dental Education, and allocated a further grant of \$5,000 to the Fund from the 1963 budget;

Broadened the basis of the Association's awards to finalists in the annual Canadian Science Fairs Council competition—previously restricted to the field of dental science, these awards are now made available to winners in any field of science;

Requested that the Councils on Education and Public Health and the corporate members study the possibility of employing dental students and student hygienists for dental public health teaching and demonstration services and for topical fluoride application programs during summer months;

Directed the Executive Council to consider the possibility of publishing a history of dentistry in Canada in time for the national centennial year 1967;

Received a progress report on measures to establish a national specialty qualifying and examining authority—the proposed Royal College of Dentists of Canada—and granted \$8,000 to meet the cost of incorporation and initial expenses of the college.

Re-affirmed the Association's support for fluoridation of community water supplies;

Approved revised policy statements on fluoride supplements for caries prevention and on radiation protection;





Winners of two Canadian Dental Association awards at the Second Canada-Wide Science Fair held in Toronto, May 3-4, were Mary Allison (l.) of Morrisburg, Ontario, and Donald Williams (r.) of Hamilton. Dr. A. M. Hunt, who was nominated by the Canadian Dental Association as one of the judges, congratulates Mr. Williams.

Expressed appreciation to the Procter and Gamble Company of Canada Limited for an unsolicited grant of \$3,000 in support of dental research; and

Allocated \$11,900 to the Council on Research in support of fellowships and studentships during 1964.

### RESOLUTIONS AND RECOMMENDATIONS

On resolutions submitted by corporate members the Board took the following action:

A resolution from the Manitoba Dental Association concerning conjoint university-National Dental Examining Board examinations was referred to the Council on Education and the National Dental Examining Board of Canada for study;

A recommendation from the College of Dental Surgeons of British Columbia concerning an honorarium for the Association president was approved in principle; and

A resolution from the Alberta Dental Association concerning possible re-negotiation of the Department of National Health and Welfare (Indian and Northern Health Services) dental fee schedule was taken under advisement.

In addition the Board also adopted these resolutions affecting Association policy. They call for or recommend:

Review and adjustment of salary schedules applicable to government-employed dental officers so that these schedules may be comparable to salaries of physicians in

similar employment and to income of private dental practitioners;

Administrative status of senior dental officers at all levels of government to ensure direct responsibility to the chief administrative officer of the department concerned; and

A separate earmarked dental grant under the National Health Grant program if inadequate provision for this purpose is made in the forthcoming report of the Royal Commission on Health Services.

Other recommendations adopted by the Board state that:

The dental hygienist's duties include only those areas in which she has received training in an approved program; and that no further extension of duties of the dental hygienist be considered at this time, but rather that a thorough study be made of the most effective utilization of the hygienist in the dental office and in the dental public health field;

That all dental schools organize schools of dental hygiene in conjunction with their faculties;

That in order to encourage increased utilization of dental hygienists in the offices of practising dentists, educational material and films be made available by the Auxiliary Services Committee, and further that provincial organizations and local dental societies be urged to use this material at one or more meetings per year; and that each dental school be requested to establish post-graduate courses for practising dentists in the utilization of dental hygienists;

That the corporate members of the Canadian Dental Association be asked to establish committees for the purpose of providing formal training programs for dental assistants through the provincial departments of

health and education or city school boards, and that the committees consult with the Canadian Dental Association's Council on Education concerning curriculum recommendations;

That the Council on Education undertake the responsibility of co-ordinating programs for the training of dental assistants, including the establishment of minimum curriculum requirements;

That the Auxiliary Services Committee, together with the director of the Canadian Dental Association's Bureau of Economic Research, prepare material for a study of the utilization of dental hygienists and dental assistants in dental offices;

That all dental schools be urged to provide increased training of undergraduate dental students in the utilization of dental assistants;

That the corporate members be urged to establish programs for educating the practising dentist in the utilization of dental assistants; and

That findings from experimental programs on extended duties of auxiliary personnel be submitted to the Council on Education for evaluation when they become available.

## EXECUTIVE COUNCIL

The Executive Council met on two occasions—one immediately preceding and again immediately following the Board of Governors sessions. Among the actions taken by the Council were these:

Confirmation of arrangements for a joint meeting in Chicago, September 6-7, of the Association's Executive Council with the Board of Trustees of the American Dental Association;

Appointment of a sub-committee to act on resolutions from the Board of Governors respecting salaries and administrative status of government-employed dental officers; and

Direction to the secretary to implement the intent of the Board of Governors with respect to compiling a history of dentistry in Canada.

The Council also met with officers of the specialty sections to discuss future action with respect to interlocking convention schedules and financial assistance for section meetings.

## PRESIDENTIAL ADDRESS

Pierre Surprenant and C. R. Chicoine, both of the Université de Montréal, were named winners of the 1963 Canadian Dental Association War Memorial Essay Contest when M. V. J. Keenan delivered the presidential

address at the Canadian Dental Association luncheon on May 20. Dr. Keenan congratulated the two Montreal graduates for their achievement. The War Memorial Essay Award commemorates Canadian dentists who fell in two world wars.

Reviewing the highlights of the Board of Governors sessions which preceded the national convention, Dr. Keenan drew attention to the very favourable report by the Wyatt Company regarding Canadian Dental Association-sponsored pension and insurance plans.

Dr. Keenan also cited progress toward the establishment of a Royal College of Dentists of Canada, the intent to seek representation of the Canadian Dental Association on the Canadian Council on Hospital Accreditation, and representation of federal dental services on the Board of Governors as three of the Board's most important policy decisions.

Establishment earlier this year of the Canadian Fund for Dental Education was described as a major achievement, and Dr. Keenan paid tribute to the dental supply industry for its generous support of this project. Individual dentists will soon be able to contribute to this fund in the near future.

Dr. Keenan also called for the establishment of dental service corporations and provincial fee schedules, emphasizing that "this principle is important in relation to all future plans for dental services."

Complimenting the Royal Commission on Health Services for its very thorough examination of Canada's health problems, Dr. Keenan at the same time expressed his concern over certain governmental policy statements issued in advance of submission of the Royal Commission's report to parliament. "It would seem logical to assume that a political party could formulate a more practical and even a more acceptable program after having studied this comprehensive report, rather than proceed without a comparable investigation of the facts," Dr. Keenan stated. "Unfortunately, this procedure is not being followed," he added. "Your national association will, however, continue to promote the interest of the dental profession in every way possible."

Dr. Keenan complimented the voters in Metropolitan Toronto on the favourable result of the fluoridation referendum conducted in December 1962. He also expressed appreciation to the news media for their help in conveying the profession's views on fluoridation to the public.

## NATIONAL CONVENTION HIGHLIGHTS

The national convention program opened with a delightful music festival and art ex-

hibit on Sunday evening, May 19.

Frank McCombie, immediate past chairman of the Canadian Dental Association's Council on Public Health, addressed the Public Health Breakfast Meeting on Monday morning. Later that morning Association secretary Don W. Gullett delivered the George Wellington Grieve Memorial Lecture. Retiring Canadian Dental Association president M. V. J. Keenan was the speaker at the Canadian Dental Association Luncheon on Monday noon. The health services panel on Monday afternoon included A. D. Kelly, general secretary of the Canadian Medical Association, Canadian Dental Association past president W. G. McIntosh, and I. W. Outerbridge, prominent Toronto lawyer.

Group clinics were presented by the two essayists—Ulf Posselt of Malmö, Sweden, and J. H. Mosteller of Mobile, Alabama, along with nine other eminent clinicians and a panel group on Tuesday and Wednesday mornings. The other group clinicians included R. H. Boos of Minneapolis, M. H. Rode of Philadelphia, W. H. Feasby of Winnipeg, C. D. Torneck of Toronto, Lt.-Col. J. W. Turner of the Royal Canadian Dental Corps, L. E. Francis and H. Skurnik of Montreal, R. H. Bingham of Halifax, and H. M. Worth of Victoria. The panel group, comprised of R. M. Grainger, A. Jarvis, R. D. Leuty and Frank Popovich, reported on the assessment of handicapping malocclusion as developed at the Burlington Orthodontic Research Centre.

Projected clinics on Tuesday and Wednesday afternoons included such subjects as emergency treatment of anterior teeth, provisional-permanent veneer crowns, odontogenic cysts, strontium<sup>90</sup> uptake in children's teeth, amalgam restorations, oral surgery, management of deciduous teeth with tooth-jaw discrepancy, and management of accounts receivable.

John Prichard of Fort Worth, Texas was the guest clinician on the television clinic program presented on Tuesday morning and afternoon. Other participants on this program included P. E. Currie of London, Ontario, and D. E. Lindsay, Frank Martin, A. A. Antoni, Douglas Stoneman, Guy Poyton, and Mrs. M. Pohlak, all of Toronto.

Essayists Ulf Posselt and J. H. Mosteller presented their feature essays on Wednesday afternoon. Dr. Posselt, who is associate professor at the Royal Dental School in Malmö, discussed the treatment of bruxism. Dr. Mosteller, consultant in operative dentistry to the U. S. Army Dental Corps and a special lecturer at the University of Tennessee, discussed Class V restorations.

The 65 table clinics on Monday and Wednesday mornings covered orthodontics, prosthodontics, operative dentistry, crown and bridge prosthodontics, paedodontics, surgery,

practice management, endodontics, photography in dentistry, radiology, periodontics, dental public health, and dental hygiene.

S. A. MacGregor, professor and head of the Department of Paedodontics at the University of Toronto, addressed the Dental Public Health Luncheon on Tuesday. The luncheon on Wednesday was addressed by Ontario Dental Association president L. E. Hastings.

## ADVOCATE PREPAID DENTAL CARE

"There are now 150 prepaid dental programs in North America, serving 200,000 Canadians and 2,000,000 U. S. citizens," W. G. McIntosh, past president of the Canadian Dental Association, told delegates to the joint annual conventions of the Canadian and Ontario Dental Associations in Toronto. Dr. McIntosh was a participant on the health services panel—a special C.D.A. presentation featured annually at the national convention.

At least four insurance companies are negotiating or preparing to negotiate dental insurance policies in Canada.

He warned the more than 400 assembled dentists not to dig in their heels blindly against social change. "The only reason for existence of our profession is to serve others," he said. "If we fail to make our services available or place them beyond reach of the public, then our status as a profession and our legal power of self-regulation will quickly disappear."

He said the dental profession must uphold the idea of individual self-reliance, but must help work out a way of helping those who cannot pay for dental services. "In all countries including our own there are government-supported health schemes in operation now. The difference lies only in the degree to which they have progressed," he added. "The cry of no government control is outdated. It is now a question of how much government control and how it can be most efficiently used in the best interests of all concerned."

I. W. Outerbridge, a prominent Toronto lawyer who specializes in medico-legal work, warned that members of the health professions face the danger of being transformed into civil servants unless they take steps to meet the rising public demand for increased services and a method of payment that imposes no unduly heavy burdens.

"Dentists have an urgent choice to make," he said: "Either surrender some of their freedom to the control of their own professional governing body, or be prepared to surrender it to the state."



Frank McCombie, former chairman of the Canadian Dental Association's Council on Public Health, told convention delegates that dental diseases cost Canadians a hundred million dollars a year. Eighty-seven per cent of children up to age 13 need dental treatment, he said, and half of them have never been to a dentist by the time they reach that age.

Dr. McCombie said Canada has not trained enough dentists to match its population increase. In 25 years the population has increased 65 per cent, whereas the number of dentists has only risen by 40 per cent.

Canada, with one dentist for every 3,108 persons, must double its number of dentists by 1975 if it is to treat patients at the present rate, he warned.

#### SEEK TAX RELIEF FOR EDUCATION AND CONVENTION ATTENDANCE

Dentists should be allowed to deduct against tax any reasonable costs incurred in the course of maintaining their professional knowledge, the Canadian Dental Association recommended in a brief submitted to the Royal Commission on Taxation, May 3. These costs relate particularly to reasonable expenses incurred in the course of attending graduate and postgraduate refresher programs sponsored by recognized universities.

The Association also urged that reasonable costs incurred by salaried dentists in the course of maintaining their professional knowledge and skill be allowed as deductible expenses. These expenses include the cost of attending professional conventions, scientific meetings and refresher courses, the purchase of books, and subscriptions to scientific and dental journals.

Appearing as representatives of the Association were past president M. V. J. Keenan; Association secretary Don W. Gullett; W. G. McIntosh, chairman of the Dental Services Committee; and Mrs. B. I. Brown, director of the Bureau of Economic Research.

### Canada and the Provinces

#### URBAN FAMILY EXPENDITURES ON DENTAL CARE REVEALED

The average Canadian urban family of two or more spent \$31.80 for dental care in 1959

according to a Dominion Bureau of Statistics survey. The data relate to urban centres of 15,000 population or more.

Fifty-six per cent of the families received dental care during that year.

There was a considerable variation in percentage utilization and average expenditure according to the region in which the family lived. In general the highest expenditure occurred in British Columbia (\$39) while the lowest was reported in the Atlantic provinces (\$22). For families with incomes of \$2,500 to \$7,000 the highest expenditure occurred in the Prairie provinces (\$34.80) and the lowest was reported in Quebec (\$17.50). Edmonton was the city where the highest expenditure occurred (\$43.80) while Quebec centres other than Montreal recorded the lowest expenditure (\$10.30). These dollar values represent average expenditures.

#### SASKATCHEWAN, ALBERTA AND ONTARIO MEDICAL CARE PLANS COMPARED

The Bureau of Economic Research of the Canadian Dental Association has compiled the following information concerning existing medical care plan legislation in Saskatchewan and Alberta and the draft medical health insurance bill introduced in the Ontario legislature on April 23.

**Saskatchewan.**—The plan is operated by a government Medical Care Insurance Commission. Participation is compulsory. The plan is financed through premiums (\$12 annually for individuals, \$24 for families), a six per cent surcharge on federal income tax, a 1½ per cent sales tax, and a one per cent corporation income tax. The plan was strongly opposed by the medical profession. It does not incorporate a deterrent fee or means test. All residents qualify for participation.

**Alberta.**—The plan is operated through existing insurance carriers — non-profit as well as commercial. Participation is voluntary. The plan is paid for from general revenue. Patients other than indigents are required to pay a portion of the premium. There is no maximum on premiums. The plan was developed in full co-operation and agreement with the Alberta College of Physicians and Surgeons. No consideration has so far been given to a deterrent fee. Persons applying for subsidy will make a declaration of their annual income. The number who will qualify will depend on the maximum income level still to be set.

**Ontario.**—The proposed plan will operate through existing insurance carriers. Participation will be voluntary. The provincial government will set a maximum on premiums.

### SASKATCHEWAN TO CONSIDER DENTAL SCHOOL

A motion adopted recently by the Saskatchewan legislature requests that, "the University of Saskatchewan and the government of Saskatchewan study ways of making dental services more readily available to the citizens of Saskatchewan, including the desirability or otherwise of modifying the dental bursary program, of making appropriate arrangements with other universities for the education of Saskatchewan students of dentistry, and of establishing a dental college in Saskatchewan with a course leading to the degree of Doctor of Dental Surgery."

A previous motion only asked for immediate consideration of the establishment of a dental school within the University of Saskatchewan. The above amendment, put forward by the Minister of Public Health, was adopted.

### WINNIPEG DENTIST SERVES ON MANITOBA HEALTH SERVICES COUNCIL

J. L. Warriner, a Winnipeg dentist, has been named vice chairman of an advisory council on health services in Manitoba. The council, headed by Portage la Prairie business man R. E. Burke, will take over responsibilities formerly carried out by an advisory commission under the Health Services Act, and a hospital council set up under the Hospital Insurance Service Act. Both previous bodies were disbanded by amendments to the Manitoba Health Department Act.

### ONTARIO DENTAL WELFARE PLAN CONTINUES SATISFACTORY DEVELOPMENT

During 1962 some 1,175 Ontario dentists treated 9,840 eligible children under the Ontario Dental Welfare Plan. The plan provides dental care to dependants of persons in receipt of mothers' allowances. Some \$163,802.65 was paid out in 5,100 payments to dentists and in administration costs. There were 22,191 children, on the average, eligible each month, with some 28,991 eligible in the year. Additions and deletions to the list of beneficiaries almost parallel one another—some 6,741 were added while 6,947 were deleted. According to the May 1963 R.C.D.S. *News Letter*, "the dental welfare plan continues to enjoy the general good will of the profession and the approbation of the Department of Public Welfare of Ontario."

### QUEBEC INSURANCE COMPANY TO WRITE DENTAL BENEFITS

A Quebec insurance company, La Société des artisans coopérative d'assurance, intends to extend its sickness and accident benefits to include dental services. The company plans to offer dental benefits this summer to its 500 employees, 200 of whom are situated in Montreal while the other 300 are in other parts of Quebec. The company plans to have a 15 to 25 per cent co-insurance feature and a \$10 deductible. Payments will be on the basis of the dentist's usual fees. The company's actuary considers the problem areas of dental insurance to be prosthodontics and orthodontics.

## International Items

### HOSPITAL DENTISTRY SYMPOSIUM IN MINNEAPOLIS

The Second Annual Hospital Dentistry Symposium at Methodist Hospital, Minneapolis, Minnesota has been scheduled for September 24-25. The course covers oral surgery, paediatric and general dentistry, prosthodontics and periodontics, and a discussion of the responsibility and opportunity for the dentist in the hospital. The registration fee is \$50. Further information may be obtained from B. W. McNamara, secretary, Dental Section, Methodist Hospital, Minneapolis 26, Minnesota, U.S.A.

### AMERICAN PERIODONTISTS TO MEET IN NEW YORK

The annual meeting of the American Academy of Periodontology will be held in New York at the New York Hilton Hotel October 9-12. There will be research reports of vital interest to the future of periodontics as well as a clinical program. This year's program emphasizes the relationship of periodontal disease to other phases of dentistry. It should be of interest to those whose interests lie in the basic aetiological factors associated with periodontal disease and the newest therapeutic procedures in the treatment of these conditions. Information concerning this meeting may be obtained from H. A. Hartman, 4187 Pearl Road, Cleveland 9, Ohio.

## Dental Organizations

### J. B. MACDONALD HONOURED BY BRITISH COLUMBIA DENTISTS

Honorary membership in the British Columbia Dental Association was bestowed on J. B. Macdonald, president of the University of British Columbia, at a meeting of the executive held in the association office with some twenty members in attendance. It had been intended to confer this honour at the annual convention, but Dr. Macdonald's commitments made it impossible for him to be present. The association president, M. J. T. Dohan, made the presentation, which is reserved for persons who have made a meritorious contribution to the science and art of dentistry.

### BRITISH COLUMBIA DENTISTS NAME NEW EXECUTIVE

O. F. Wright of Vancouver was named president of the British Columbia Dental Association at that organization's recent annual convention in Harrison Hot Springs. Other members of the executive are H. G. Pettapiece of Parksville, president-elect; M. J. T. Dohan of Victoria, past president; S. Margolese of Vancouver, treasurer; and T. E. Ramage of Vancouver, secretary. Named as directors were G. C. Russell, A. A. Miller, J. D. McInnis, P. Boyle, C. E. Craig, H. J. Dombrowski, C. W. Gardner, J. F. Reid, W. H. Letham and H. G. Steed.

### PEACE RIVER DISTRICT DENTISTS ELECT

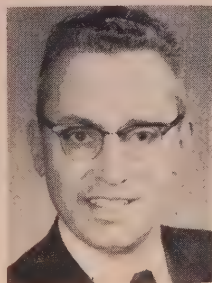
Results of recent elections are reported from the Peace River District Dental Society. This is the only local dental society which spans areas in two provinces—British Columbia and Alberta. This year's executive is drawn from the British Columbia side. P. M. Hapchyn of Dawson Creek is president. Steven Fedoruk of Fort St. John and Nicholas Tacogna of Dawson Creek are respectively vice president and secretary-treasurer. Named as directors were H. J. Quinn of Grande Prairie, J. I. Woronuk of Dawson Creek, and N. S. Gaudet of Peace River.

A course on radiographic technique for dental assistants was recently presented under the auspices of the society by M. Smith, R. I. Yorsh and E. I. Slakov, all of Vancouver. Present were 17 dentists and their

assistants, some of whom travelled a distance of 160 miles to attend.

Four communities on the Alberta side held recent successful fluoridation plebiscites as did Fort St. John on the British Columbia side.

### DEEDRICK HEADS ALBERTA DENTAL ASSOCIATION



D. C. Deedrick

D. C. Deedrick of Lacombe has been elected president of the Alberta Dental Association for 1963. A 1950 dental graduate of the University of Alberta, Dr. Deedrick is also a provincial associate editor of the *Journal of the Canadian Dental Association*.

Elected to the executive with Dr. Deedrick were M. J. Lipkind of Calgary, vice president; J. E. Young of Edmonton, immediate past president; G. V. Clarke of Edmonton; R. A. Gray of Medicine Hat; J. Higa of Grande Prairie; and R. L. Rasmussen of Calgary. G. E. Decker is registrar-secretary-treasurer.

### CALGARY DENTISTS HONOUR TWO COLLEAGUES

Two distinguished members of the Calgary and District Dental Society were honoured for their contributions to the public and to the profession before a record attendance at the society's March meeting.

R. R. McIntyre was honoured when the Calgary and District Dental Society presented an annual scholarship of \$200 to the Faculty of Dentistry, University of Alberta, to be awarded to a deserving student each year.

J. W. Clay was made an honorary member of the society and was presented with an engraved silver tray.



### WILL COMPILE HISTORY OF ALBERTA DENTISTRY

An Edmonton dentist, J. A. Hawkins, plans to compile a permanent record of the history of dentistry in Alberta and the territory before the founding of the province. Dr. Hawkins would welcome the contribution of photographs, articles, stories, and dental items of historical content and interest. These may be sent to him at the office of the Alberta Dental Association, 9901-108 Street, Edmonton, Alberta.

### ALBERTA DENTISTS HONOUR FIFTY-YEAR PRACTITIONERS

Nine Alberta dentists were honoured at a banquet of the provincial dental association's convention held recently in Calgary. Past president J. E. Young presented engraved plaques congratulating the recipients on behalf of the association. In attendance to receive the plaques, commemorating fifty years of practice and service to the public were H. S. Macartney of Castor, L. T. Allen of Lethbridge and Ernest Kennedy of Banff.

Also honoured, though not present, were H. W. deRenzy, C. B. Johnson, J. W. Clay, T. F. MacDonald, L. H. McIntyre and J. B. Carmichael.



W. W. Philp

### PHILP HEADS ONTARIO DENTAL ASSOCIATION

W. W. Philp of Toronto was installed as president of the Ontario Dental Association at the recent joint convention of the Canadian and Ontario Dental Associations in Toronto. Other officers elected with Dr. Philp are L. E. Hastings of Fort William, immediate past president; E. E. Johns of Kingston, pres-

ident-elect; F. H. Shepherd of Toronto, archivist-historian; and Mrs. W. C. Durham of Toronto, secretary-treasurer.

Named as members of the Board of Governors are H. N. B. Beach of Ottawa, District 1; G. F. Rogers of Huntsville, District 2; M. G. Boyes and W. J. Spence of Toronto, District 3; G. K. Chapman of Fort Erie, District 4; J. B. Taylor of London, District 5; W. A. Burgman of Preston, District 6; A. R. Kaukinen of Sudbury, District 7; and S. P. Smith of Port Arthur, District 8.

D. J. E. Mitchell of Toronto is chairman of the Dental Public Health Committee, and R. S. Woollatt of Toronto is chairman of the Benevolent Committee. A. W. Lindsay of Toronto is editor of the *Journal of the Ontario Dental Association*.

A change in the constitution approved at the annual meeting results in two more electoral districts. They are District 2 represented by G. F. Rogers and District 6 represented by W. A. Burgman.

### PROPOSE TO REVIEW STRUCTURE OF ORGANIZED DENTISTRY IN ONTARIO

The Royal College of Dental Surgeons of Ontario has agreed to a proposal that a study be made of present and future requirements of the structure of organized dentistry in Ontario. The proposal was made by a liaison committee comprised of representatives of the college and of the Ontario Dental Association. The action follows recent observations made by some members of the college concerning the present structure of the Royal College of Dental Surgeons of Ontario and its relationship as a corporate member of the Canadian Dental Association to the latter body.

Full approval and an offer of financial assistance were extended to the proposed Royal College of Dentists of Canada by the Royal College of Dental Surgeons of Ontario at its annual meeting, April 15-18. The proposed Royal College of Dentists of Canada, a national dental specialty examining and qualifying authority, is to be incorporated shortly by the Canadian Dental Association.

### MONTREAL DENTAL CLUB MEETS

A. S. Catelli and John Fong Chong addressed members of the Montreal Dental Club at a meeting on April 22.

Dr. Catelli's subject was "Functional impression and generated paths of occlusion in partial denture construction."

"Ceramco crowns and bridges" was the subject of Dr. Fong Chong's presentation.

### NEW BRUNSWICK DENTIST HONOURED

Arthur Steuermann, a prominent Saint John dentist who plans to pursue postgraduate study in oral surgery at the Eastman Dental Clinic, London, England, was recently honoured by the Saint John Dental Society for his many years of service to that organization. Dr. Steuermann has practised continuously in Saint John since he graduated from Dalhousie University in 1947. He served as secretary of the society for ten years and has also been a member of the council of the New Brunswick Dental Society. Dr. Steuermann received an engraved gift in recognition of these services.

### MOUNT ROYAL DENTAL SOCIETY HAS NEW EXECUTIVE

David Solomon of Montreal became the new president of the Mount Royal Dental Society at that organization's forty-second annual election and installation dinner in Montreal, April 23. Other officers elected with Dr. Solomon were: L. Druckman, vice-president; D. Zacharin, secretary; H. L. Levitt, assistant secretary; and M. Star, historian-archivist. A silver cigarette box was presented to Harry Rosen, past president, in appreciation of services rendered during the past year.

L. W. Burkett, dean of the University of Pennsylvania School of Dentistry, delivered the D. P. Mowry Memorial Lecture, April 5. His subject was "Diseases of the tongue and oral nutritional deficiency." Dr. Burkett discussed the differential diagnosis of nutritional deficiencies and suspected malignancies, as well as reactions of psychogenic origin and reactions to chemotherapeutic irritants.

### NOVA SCOTIA DENTAL HYGIENISTS HONOUR PROVINCIAL DENTAL DIRECTOR

W. G. Dawson, director of the Division of Dental Services, Nova Scotia Department of Public Health, received an honorary membership in the Nova Scotia Dental Hygienists' Association, May 11, in appreciation of his contribution to the development of the dental health program in that province and his assistance in the formation of the Nova Scotia Dental Hygienists' Association.

Newly elected officers of the hygienists' group are: Mrs. Helen Porter, president; Mrs. Anne Marshall, vice president; and Miss Anne MacIntosh, secretary-treasurer.

Consideration was given at the same meeting to reports from the president, the secretary-treasurer and the nominating committee. A draft constitution for the proposed Canadian Dental Hygienists' Association was also reviewed. Miss Anne MacIntosh subsequently attended a meeting of dental hygienists from all parts of Canada held in Toronto, May 21 in conjunction with the national convention of the Canadian Dental Association.

### HALIFAX DENTISTS HOLD CLINICAL MEETING

R. E. Jordan, associate professor of operative dentistry at Dalhousie University, addressed the members of the Halifax County Dental Society at a meeting on March 20. The subject of Dr. Jordan's illustrated presentation was "Amalgam restorations in modern restorative dentistry." Claiming that 80 per cent of all dental restorations are amalgam, Dr. Jordan emphasized that a well placed amalgam restoration is equal to a gold foil or inlay restoration. Amalgam restorations demand a meticulous technique, Dr. Jordan stated, adding that "most amalgam failures are due to improper cavity preparation or improper manipulation of the restorative material."

### Canadian Dental Schools

#### UNIVERSITY OF ALBERTA

*New Assistant to the Dean.*—C. W. B. McPhail, associate professor (Dental Public Health) at the Faculty of Dentistry, University of Alberta, has been appointed assistant to the dean effective April 1. Dr. McPhail has resigned as director of Dental Public Health Services, Alberta Department of Health, a position which he previously held in addition to his university appointment.

#### UNIVERSITY OF MANITOBA

*Kellogg Grant for School of Dental Hygiene.*—The W. K. Kellogg Foundation of Battle Creek, Michigan has provided a \$50,000 grant

to the University of Manitoba for the establishment of a school of dental hygiene within the university's Faculty of Dentistry. The grant will be used for capital equipment and current expenses over the first four years of operation. Admission to the two-year course will be limited initially to 10 or 15 students annually. University entrance requirements (grade 12 matriculation standing) will be required for entrance to the course which, it is planned, will commence in September 1963.

Mrs. Margery Forgay, B.A. (Sask.), R.D.H., of Winnipeg has been appointed director of the new school. A native of Rosetown, Saskatchewan, Mrs. Forgay received her early education in Saskatoon and earned her diploma in dental hygiene at the Eastman Dental Dispensary of Rochester, New York. For some time she was employed by the Department of Public Health in Saskatchewan following which she worked in private practice. She then resumed her studies at the University of Saskatchewan, receiving her Bachelor of Arts degree in 1955. The assistant director of the school will be Miss Dixie Scoles, B.Sc. [Ed] (Ohio State), R.D.H., of Minneapolis.

Margery Forgay



Dental Hygienists are permitted by law in Manitoba to perform certain duties in the mouths of patients, as long as these duties are delegated and supervised by a dentist in his office, and thus the responsibility for the hygienist continues to rest with the dentist. These duties involve the taking of x-rays, the scaling and polishing of teeth and such procedures as the application of fluoride solution to the teeth of children. The taking of denture impressions was added to the hygienist's duties in Manitoba by legislative amendment in 1960. In addition, throughout the United States and other parts of Canada many hygienists work in public health agencies where their responsibilities lie more in the field of dental health education of the public.



Artist William Lytle stands beside a portion of his mural depicting the history of dentistry in the Museum of the Faculty of Dentistry, University of Toronto.

#### UNIVERSITY OF TORONTO

*Mural for Faculty of Dentistry Completed.*—William Lytle has completed a mural in the museum of the Faculty of Dentistry which depicts the development of dentistry through the ages. The mural takes shape from the curvature of an adjoining wall and works from both ends towards the centre. Into the fabric of the mural Mr. Lytle has woven more than 40 incidents from dental history. He begins with the suggestion of prehistoric dental treatment at the top left corner, and from the top right corner he traces dentistry from European medieval times. The central section which deals with North American and Canadian dentistry depicts modern advances in the profession. The colours used in the mural are red, yellow and three shades of blue, plus white and gold. The gold is a metal symbolic of dentistry and also of barbaric and medieval cultures. The white exemplifies 20th century dentistry. The mural is about six feet deep and 22 feet long at its maximum.

The cost of the mural was donated by Mrs. Mendel Nevin of New York and her son, Dr. Marshall Nevin, in memory of Dr. Mendel Nevin and Dr. Hillard Nevin. Dr. Mendel Nevin was a pioneer in the development and manufacture of local anaesthetics for dental use on this continent.

The artist, William Lytle, was born in Toronto and his work has included murals in England and the Brussels World Fair, as well as the Hamilton City Hall.



**Staff News.**—G. A. Morgan, associate in Dentistry (Oral Surgery), will serve as Canadian representative on the Committee on International Affairs in Oral Surgery—a committee under the sponsorship of the American Society of Oral Surgeons. Dr. Morgan recently presented a clinic at the sixty-fourth annual meeting of the American Dental Society of Europe. The meeting took place in Barcelona, Spain, July 8-12.

R. C. Burgess of the Division of Dental Research attended a one-day seminar in New York sponsored by Lever Brothers on the subject of "Calculus formation" on May 3.

Gordon Nikiforuk, professor of Preventive Dentistry and chairman of the Division of Dental Research, delivered the convocation address, May 24, on the occasion of conferring of dental degrees and diplomas.

Lt.-Col. S. G. Bagnall attended the monthly meeting of the editorial board of the *Oral Health* magazine on May 8.

### OFFICERS RETURN FROM MIDDLE EAST

Maj. A. L. Kelland and Capt. M. D. G. Conrad recently returned to Canada following the completion of one-year tours in the Middle East with the United Nations Emergency Force. Maj. Kelland will be employed at the R.C.D.C. School, Camp Borden, and Captain Conrad has been posted to No. 12 Dental Company in Halifax.

Replacing these officers overseas are Maj. R. J. K. Pyne, formerly of R.C.A.F. Station Comox, B.C., and Capt. R. J. Paturel from the Royal Canadian School of Military Engineering at Vedder Crossing, B.C.

### OFFICERS ATTEND PROFESSIONAL TRAINING COURSES

The following officers recently completed professional training as indicated: Major G. I. J. Bissailon—Oral Surgery at Ent Air Force Base, Colorado Springs, Colorado; Captain D. D. R. Girard—Crown and Bridge, and Captain G. T. Crossman—Oral Surgery, both at the U. S. Naval Dental School, Bethesda, Maryland.

## Royal Canadian Dental Corps

### DUTY TRIPS AND VISITS

Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces was in Toronto, May 15-21 to participate in the annual meeting of the Board of Governors of the Canadian Dental Association and to attend the joint convention of the Canadian and Ontario Dental Associations.

One of the clinicians at this convention was Lt.-Col. J. W. Turner whose subject was "Recent developments in bridge work." Lt.-Col. Turner, who is on the staff of the R.C.D.C. School at Camp Borden, is currently completing a two-year exchange posting at the U. S. Naval Dental School at Bethesda, Maryland.

Col. G. B. Shillington, Deputy Director General of Dental Services also attended the C.D.A.-O.D.A. convention following the annual meeting of the Canadian Academy of Prosthodontics on May 19.

Maj. A. W. Brusso, Senior Procurement Officer, visited Washington, D.C., May 13-16 to attend the annual meeting of the Standard Working Group for the A.B.C. (American, British, Canadian) Table of Medical Equivalents. This project, which was initiated in 1951, involves the analysis of the medical supply catalogues of the three countries with the object of determining equivalent items and to establish a table of equivalents in order that such items can be identified for supply purposes in the national catalogues of the three countries.

### SENIOR OFFICERS OF THE R.C.D.C. MILITIA



Lt.-Col. G. L. Ramsay

Continuing the current series of photographs of members of the Militia Advisory Staff, shown is Lt.-Col. G. L. Ramsay, Deputy Assistant Director of Dental Services for Eastern Command.

## Public Health

### GANDER FIRST IN NEWFOUNDLAND TO FLUORIDATE

On March 18 the first municipality in Newfoundland began fluoridating its water supply. Gander, with a population of about 6,000, initiated this public health measure by council action after two years of study. The adoption of fluoridation throughout the province is being urged by the Newfoundland Dental Society and its president, M. J. Maguire of Gander.

### FLUORIDES REDUCE TOOTH DECAY IN BRANDON

Children's tooth decay has decreased noticeably in Brandon, according to the Manitoba health department. Fluoridation has been in effect in this municipality since 1955. The percentage of children without dental caries in permanent teeth in the age group six to eight increased from 32 per cent in 1955 to 74 per cent in 1962. In the nine to eleven age group the increase was from 9.5 per cent in 1955 to 32.7 per cent in 1962. R. A. Connor, provincial dental director, stated in his latest report, "this downward trend has been of a dramatic nature in the 6, 7, 8 age group and may even be considered to be rather dramatic in the 9, 10, 11 age groupings."

### B. C. CHILD DENTAL HEALTH IMPROVES DESPITE DENTIST SHORTAGE

The dental health status of almost half the children in British Columbia has improved during the past six years despite a continuing shortage of dentists, according to the 1962 annual report of the B.C. Health Branch's Division of Preventive Dentistry.

Ninety-one community preventive dental programs operated during the last school year in all eighteen of the province's health

unit areas. One hundred and thirty-four general practitioners and five dental externs provided services to these programs.

A community dental health survey was conducted in the Greater Vancouver region last year. Similar annual dental health surveys have been carried out in selected areas of the province for a number of years. Each region is surveyed once every three years.

Other activities included the evaluation of topical applications of stannous fluoride and of fluoride phosphate, water fluoridation surveys in Kelowna and Prince George, a survey of dental needs and facilities in the province, a study of the relationship between malocclusion and dental caries, a study of the effect of penicillin therapy on caries incidence among children, and a radiation protection service in dental offices.

### NEW APPOINTMENTS ANNOUNCED

T. J. Gavrilloff, dental director of Jasper Place (Alberta) Health Unit, has recently been appointed director of Dental Services for the city of Edmonton. Dr. Gavrilloff succeeds W. A. Zacherl who accepted a full-time position in the Faculty of Dentistry, University of Alberta. Prior to coming to Alberta, Dr. Gavrilloff was dental director in 1959-60 with the East York-Leaside Health Unit in Metropolitan Toronto. A graduate of the Faculty of Dentistry, McGill University, Dr. Gavrilloff practised in Montreal and lectured at McGill University before obtaining the diploma in dental public health from the University of Toronto in 1959.

D. W. Lewis was appointed director of the Dental Health Division, Kingston (Ontario) Health Department, in September 1962. A 1959 dental graduate from the University of Toronto, Dr. Lewis received the diploma in dental public health from the same university in 1962.

B. T. Martinello has been appointed director of the Dental Division, Brant County (Ontario) Health Unit. A dental graduate of the University of Toronto and a former school dental officer for the city of Brantford, Dr. Martinello received the diploma in dental public health from the University of Toronto in 1962.

*C.D.A. Library Trust Fund* • The circulation of books and periodicals by the Canadian Dental Association's Library provides a valuable service to Association members. Increased circulation and the purchase of new texts make greater demands on the Association's library trust fund. All donations to the fund are therefore gratefully received. Donors are furnished receipts which entitle them to income tax deduction.

## book reviews

### HOSPITAL SAFETY AND SANITATION WITH SPECIAL REFERENCE TO PATIENT SAFETY

*University of Michigan School of Public Health, Continued Education Series. Ann Arbor. February 15-16, 1962. 208 p.*

This book is made up of 208 beautifully printed and well laid out pages. The work resulted from a workshop on Hospital Safety and Sanitation held on October 23-24, 1961 and an Institute on Hospital Safety and Sanitation conducted on February 15-16, 1962.

This publication is a compilation of the papers that were presented at this workshop and at the institute. These two meetings were co-sponsored by the School of Public Health and the University Hospital of the University of Michigan, the Michigan Hospital Association, the National Sanitation Foundation, the University of Michigan Schools of Medicine and Nursing, the Michigan Department of Health, and several other national and Michigan organizations.

The publication is made up of 33 papers, all pertinent to the subject of hospital safety and sanitation, with special emphasis on patient safety, and presented by different authorities in the field. Some of the papers include the epidemiology of patient accidents, case studies of patient hospital accidents, liabilities arising from patient accidents, accidents and their control, personnel selection, education and training for safety, the safety of a child in the hospital, safety for the handicapped patient, cause and control of medication and therapy errors, equipment failures and malfunctions, fire hazards, etc.

The purpose of the manuscript, as indeed the purpose of the institute, is to alert hospitals to the needs in the area of safety and sanitation, the hazards of poor safety practice, and methods to improve safety programs. This manuscript certainly accomplishes that end. It represents a monumental work and the University of Michigan and all others responsible for its production deserve high commendation. This publication should have a place in the libraries of all hospitals, medical and dental schools, and all health agencies. It should be read and studied by all hospital administrators and managers, as well as all hospital staff,

both professional and lay. The reviewer strongly recommends this book to all dental personnel engaged in hospital dental practice.

A. A. Antoni

### DENTAL WRITING

*F. W. Craddock. Bristol, John Wright & Sons, 1962. (Available from The Macmillan Co. Ltd., Toronto) 90 p. \$3.15*

The title on the cover of this book is terse and to the point and may not arouse in many prospective readers and buyers a desire to go any further into the matter. However, as soon as one opens the book at the title page, one sees immediately that this may well be Craddock at his best for the sub-title reads — "Notes on the anatomy and pathology of English composition for dentists." From there on the reviewer couldn't resist the temptation of devouring the whole book at one sitting.

To those who have read the dental literature in the last 20 years the name of Craddock is well known. He has been a research worker, professor of prosthetic dentistry, author and editor and so he brings to his pet subject a multitude of experiences which few in the dental world can equal. In a concise way and delightful manner he attacks the use of obtuse words and verbose phrases for the short, clear and simple alternatives. The former abound in the dental literature and Professor Craddock has no difficulty in finding examples to prove his points.

All who attempt to write would profit by reading this small book for not only does he deal with style but also with such specialized branches of the art as thesis writing, abstracting, reviewing and bibliographies.

It is a book that this reviewer, for one, wishes to keep on his shelf and turn to from time to time for the sheer enjoyment of reading and browsing. It is a great pity that the publishers have not bound the book in a hard cover. The quality of the paper and the typography is adequate for the purpose, but the price is too high for the paper and binding that has been used.

J. R. Trott



## additions to the library

- ALLDAY, R. K. On medicine in Britain and the National Health Service. Bristol, John Wright & Sons Ltd., 1962. 62 p. \$1.15
- AMERICAN DENTAL ASSOCIATION, COUNCIL ON HOSPITAL DENTAL SERVICE. Hospital dentistry; organization, administration, accreditation. Chicago, 1963. 30 p.
- BAKWIN, H. and BAKWIN, R. M. Clinical management of behavior disorders in children. 2nd ed. Philadelphia, Saunders, 1960. 597 p.
- BRITISH SOCIETY FOR THE STUDY OF ORTHODONTICS. Transactions 1961. Bristol, John Wright & Sons Ltd., 1962. 166 p. illus.
- DENTAL CLINICS OF NORTH AMERICA, March 1963. Symposium on oral diagnosis and treatment planning. Philadelphia, Saunders. 291 p. illus.
- FORSSLUND, G. The structure and function of the capillary system in the gingiva in man; development of a stereophotogrammetric method and its application for study of the subepithelial blood vessels in vivo. (Acta Odontologica Scandinavica, Vol. 17, Sup. 26, 1959.) Stockholm. 144 p. \$11.00.
- GEFFEN, D. H., FARRER-BROWN, L. and WARREN, N. D. Public health and social services. 5th ed. London, Edward Arnold, 1960. 164 p. \$1.90.
- HAUKOHL, R. G. The history of the Marquette University School of Dentistry. Milwaukee, Wisconsin, 1962. 55 p.
- JOHNSTON, J. F., MUMFORD, G. and DYKEMA, R. W. Porcelain veneers bonded to metal castings. (Practical Dental Monographs, March 1963.) 32 p. illus.
- MAIER, F. J. Manual of water fluoridation practice. Toronto, McGraw-Hill, 1963. 234 p. illus. \$9.20
- MORRANT, G. A. Modern trends on dental surgery. London, Butterworths, 1963. 255 p. illus. \$13.50.
- NATIONAL HEALTH AND WELFARE, CANADA. Emergency war surgery. NATO handbook. 2nd ed. Ottawa, Queen's Printer, 1963. 411 p.
- PAFFENBARGER, G. C., PEARLMAN, S. and BROWN, W. R. editors. Frontiers of dental science. National Science Teachers Association — Vistas of Science 3. New York, Scholastic Book Services, 1962. 160 p. illus. 50c
- TENNESSEE DEPARTMENT OF PUBLIC HEALTH. DIVISION OF DENTAL HEALTH. A dental health guide for the teachers of Tennessee. Cleveland, Tenn., L. G. Noel Memorial Foundation, 1961. 129 p. illus.
- U.S. WALTER REED ARMY INSTITUTE OF RESEARCH, DIVISION OF DENTISTRY. Syllabus for preventive dentistry. T. A. McFall, ed. Washington (1958?) 564 p. Mimeo.
- WASHINGTON DENTAL SERVICE. The first National conference on Administration of prepaid dental care programs, September 24-26, 1962, Seattle, Washington. 153 p. Mimeo.
- WOOD-SMITH, F. G. and STEWART, H. C. Drugs in anaesthetic practice. London, Butterworths, 1962. 464 p. \$14.25.

## in memoriam

HOWARD WATSON ANDERSON—Dr. H. W. Anderson of Toronto, Ontario died on May 7, 1963. He was 88. Dr. Anderson was born in Belmore, Ontario in 1874. He attended Woodstock College and graduated from the Royal College of Dental Surgeons of Ontario in 1905. Dr. Anderson is sur-

vived by one sister, Emma L. Anderson of Toronto.

KENNETH ALBERT BLANCHER—Dr. K. A. Blancher of Morrisburg, Ontario died on March 26, 1963. He was 72. Dr. Blancher

was born in Athens, Ontario in 1892. He attended Regina Normal School and graduated from the Royal College of Dental Surgeons of Ontario in 1920. After teaching school in Saskatchewan Dr. Blanche practised dentistry in Winnipeg before going to Morrisburg 41 years ago where he remained until his death. Besides his wife, Mary Irene, he is survived by two sons, Charles of London, Ontario, and Stewart of Regina, Saskatchewan; one daughter, Mrs. John Brooks of Ajax, Ontario; and a sister, Mrs. Ross Mansell of Athens.

**CALVIN DAVID BRICKER** — Dr. C. D. Bricker of Grenfell, Saskatchewan died on April 22, 1963. He was 78. Born in Listowel, Ontario in 1884, Dr. Bricker graduated from the Royal College of Dental Surgeons of Ontario in 1907. In January of 1963 he was made an honorary member of the College of Dental Surgeons of Saskatchewan.

**HARRY ROBERTS CONWAY**—Dr. H. R. Conway of Brantford, Ontario died on May 23, 1963. He was 69. Dr. Conway was born in Hespeler, Ontario in 1893. He attended

Galt Collegiate Institute and graduated from the Royal College of Dental Surgeons of Ontario in 1916. Dr. Conway practised in Toronto from 1920 until 1944. He then went to Lady Willingdon Hospital, Oshweken, Ontario where he remained until his retirement in 1961. Besides his wife, Dr. Conway is survived by three daughters, Mrs. William Daniel of Calgary, Mrs. Murray Gordon of Toronto and Mrs. Vincent Horbay of Brantford.

**JOSEPH THEODORE COUPAL**—Dr. J. T. Coupal of Ottawa, Ontario died on May 19, 1963. He was 73. Dr. Coupal graduated from the Royal College of Dental Surgeons of Ontario in 1915. He is survived by his wife; one son, Dr. Jean-Paul; and four daughters, Mrs. Warren Langford, Mrs. William Faram, Mrs. C. Lalonde and Mrs. E. Last.

**JULES A. LeBLANC**—Dr. J. A. LeBlanc of Caraquet, New Brunswick died recently at the age of 71. He was born in Moncton, New Brunswick in 1891 and graduated from Tufts Dental School in 1916.

## conventions

### **Montreal Dental Club Annual Fall Clinic October 26-30, 1963**

The 38th annual fall clinic of the Montreal Dental Club will be held this year at the Queen Elizabeth Hotel, Montreal, October 26-30.

V. O. Lucia will be the clinician at a special limited attendance pre-convention seminar, October 26-27, preceding the actual fall clinic.

Other program topics will include principles of occlusion, practice management, reports from the Montreal Dental Research Group, metabolism research featuring vitamin C, periodontics, oral surgery, a symposium on operative dentistry and the surgery-prosthetic team approach.

All dentists are again invited to attend this popular and outstanding annual event in Canada's bustling metropolis.

## announcements

### CONVENTIONS OF THE CANADIAN DENTAL ASSOCIATION

|      |                      |                |
|------|----------------------|----------------|
| 1964 | Edmonton, Alberta    | June 28-July 1 |
| 1965 | Quebec City, P. Que. | May 30-June 2  |

### FUTURE EVENTS

| <i>Date</i>             | <i>Function</i>                                                | <i>Location</i>                           | <i>Officer</i>                     | <i>Address</i>                                            |
|-------------------------|----------------------------------------------------------------|-------------------------------------------|------------------------------------|-----------------------------------------------------------|
| Aug. 16-18,<br>1963     | Eleventh Annual<br>Roentgenology<br>Workshop                   | 210 - 5655 Cambie<br>St.,<br>Vancouver 15 | Dr. M. P.<br>Warshawski            | 210 - 5655<br>Cambie Street,<br>Vancouver 15,<br>B.C.     |
| Sept. 6-8,<br>1963      | Northern Ontario<br>Dental Association                         | Kirkland Lake,<br>Ontario                 | Dr. N. O.<br>Doner                 | Kirkland Lake,<br>Ont.                                    |
| Sept. 16-18,<br>1963    | Eastern Ontario<br>Dental Association                          | Seigniory Club,<br>Montebello, P.Q.       | Dr. A. C.<br>Murchison             | 566 Byron<br>Ave., Ottawa<br>13, Ont.                     |
| Sept. 22-25,<br>1963    | XIVth Dental Meeting<br>Asociación Odonto-<br>lógica Argentina | Buenos Aires,<br>Argentina                | Dr. A. F.<br>Alvarez               | Junin 959,<br>Buenos Aires,<br>Argentina                  |
| Oct. 14-17,<br>1963     | American Dental<br>Association                                 | Atlantic City,<br>New Jersey              | Dr. H.<br>Hillenbrand              | 222 East Su-<br>perior Street,<br>Chicago 11,<br>Illinois |
| Oct. 17-20,<br>1963     | Austrian "Dentisten"<br>Congress                               | City Hall,<br>Vienna                      |                                    | 11 Kohlmarkt,<br>Vienna 1,<br>Austria                     |
| Oct. 20-24,<br>1963     | 35th Italian Stoma-<br>tological Congress                      | Rome,<br>Italy                            | Dr. P.<br>Lalli                    | Via Savoia<br>No. 78,<br>Rome, Italy                      |
| Oct. 26-30,<br>1963     | Montreal Dental Club<br>Annual Fall Clinic                     | Queen Elizabeth<br>Hotel,<br>Montreal     | Dr. W.<br>Kowall                   | 1410 Guy<br>Street, Mont-<br>real, P. Que.                |
| Nov. 17-22,<br>1963     | VIIth Mexican Dental<br>Congress                               | Mexico City,<br>Mexico                    | Dr. R. San-<br>chez-Wood-<br>worth | Sinaloa No.<br>9, México 7,<br>D.F., Mexico               |
| 25 nov.-1<br>déc., 1963 | XXXVIIes Journées<br>Dentaires Inter-<br>nationales de Paris   | Maison de la Chimie,<br>Paris             | M. Henri<br>Huguet                 | 33 ave Pierre<br>1er de Serbie,<br>Paris 16e,<br>France   |
| Nov. 28,<br>1963        | Annual Winter Clinic,<br>Academy of Dentistry                  | Royal York Hotel,<br>Toronto              | Mrs. N. H.<br>Montgomery           | 230 St. George<br>Street, Toron-<br>to 5, Ont.            |

*Note •* Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.



# cda retirement savings plan plan d'épargne-retraite adc

**Statement as of May 31, 1963**

**Relevé au 31 mai 1963**

The Canadian Dental Association Retirement Savings Plan provides dentists in Canada with a flexible method of investing savings on which they may obtain tax deferment. Three separate investment funds are available to participants, namely a Government Bond Fund, a Corporate Bond Fund and a Common Stock Fund.

## GOVERNMENT BOND FUND

The Government Bond Fund is invested in Canada, provincial, and municipal bonds and mortgages guaranteed under the National Housing Act. The unit price reflects accumulated income and fluctuations in interest rates.

|                            |           |
|----------------------------|-----------|
| Market value of fund ..... | \$319,846 |
| Unit value of fund .....   | \$12.363  |

## CORPORATE BOND FUND

The Corporate Bond Fund is invested in fixed income obligations of companies incorporated in Canada, the United States or the United Kingdom and in conventional mortgages. The unit price reflects accumulated income and fluctuations in interest rates.

|                            |           |
|----------------------------|-----------|
| Market value of fund ..... | \$569,733 |
| Unit value of fund .....   | \$13.015  |

## COMMON STOCK FUND

The Common Stock Fund provides a medium for investing in equities and for participating in the long-term growth of the economy. The unit value reflects changes in the stock market prices and the general economic conditions together with accumulated income.

|                            |             |
|----------------------------|-------------|
| Market value of fund ..... | \$1,488,098 |
| Unit value of fund .....   | \$16.320    |

Further information can be obtained from the Canadian Dental Association Retirement Savings Plan, 2249 Yonge Street, Toronto 7, Ontario or from the nearest branch of the Royal Trust Company.

tion, à savoir: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les participants peuvent varier leurs contributions entre les fonds, ou encore effectuer le transfert d'un fonds à un autre sans être sujets à l'impôt.

## FONDS D'OBLIGATIONS GOUVERNEMENTALES

Le fonds d'obligations gouvernementales est investi dans des obligations et débetures du Canada ou garanties par celui, d'une province du Canada ou d'une municipalité et d'hypothèques garanties en vertu de la Loi nationale sur l'habitation. Le prix unitaire reflète le revenu accumulé et les fluctuations des taux d'intérêt.

|                                 |           |
|---------------------------------|-----------|
| Valeur du fonds au marché ..... | \$319,846 |
| Valeur unitaire du fonds .....  | \$12.363  |

## FONDS D'OBLIGATIONS CORPORATIVES

Le fonds d'obligations corporatives est placé dans des obligations à revenu fixe de sociétés incorporées au Canada, aux Etats-Unis ou dans le Royaume-Uni et dans des hypothèques conventionnelles. Le prix unitaire reflète le revenu accumulé et les fluctuations des taux d'intérêt.

|                                 |           |
|---------------------------------|-----------|
| Valeur du fonds au marché ..... | \$569,733 |
| Valeur unitaire du fonds .....  | \$13.015  |

## FONDS D' ACTIONS ORDINAIRES

Le fonds d'actions ordinaires procure un moyen de placement sous forme d'avoir et de participation dans la croissance à long terme de l'économie. Les placements dans des sociétés canadiennes prédominent mais des investissements peuvent être faits à l'extérieur du Canada afin de profiter d'occasions particulièrement intéressantes. La valeur unitaire reflète les fluctuations des prix du marché, la situation économique générale ainsi que le revenu accumulé.

|                                 |             |
|---------------------------------|-------------|
| Valeur du fonds au marché ..... | \$1,488,098 |
| Valeur unitaire du fonds .....  | \$16.320    |

Le programme d'épargne-retraite de l'Association dentaire canadienne procure aux dentistes du Canada un moyen souple de placer leurs épargnes tout en bénéficiant d'un retardement d'impôt. Trois fonds de placements distincts sont à leur disposi-

On peut obtenir d'autres renseignements en s'adressant au Plan d'épargne-retraite de l'Association dentaire canadienne, 2249 rue Yonge, Toronto 7, Ontario ou à la succursale la plus rapprochée de la Royal Trust Company.

Common stock fund as at May 31, 1963

Fonds d'actions ordinaires au 31 mai 1963.

| Description                                                                                     | Number of shares<br>Nombre d'actions | Value<br>Valeur |
|-------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|
| Canadian stocks • Actions ordinaires canadiennes                                                |                                      |                 |
| Banks, Trust and Mortgage Companies' • Banques, compagnies de fiducie et de prêts hypothécaires |                                      |                 |
| Bank of Montreal                                                                                | 800                                  | \$ 54,300       |
| Bank of Nova Scotia                                                                             | 550                                  | 40,563          |
| Royal Bank of Canada                                                                            | 550                                  | 42,556          |
| Huron and Erie Mortgage                                                                         | 1,100                                | 60,625          |
| Beverages • Breuvages                                                                           |                                      |                 |
| Canadian Breweries                                                                              | 3,700                                | 41,625          |
| Hiram Walker Gooderham & Worts                                                                  | 700                                  | 41,738          |
| Finance and Loan • Compagnies de prêts et finance                                               |                                      |                 |
| Industrial Acceptance                                                                           | 1,100                                | 29,700          |
| Forest Products • Produits forestiers                                                           |                                      |                 |
| Dominion Tar & Chemical                                                                         | 1,500                                | 28,125          |
| Great Lakes Paper                                                                               | 1,000                                | 20,125          |
| MacMillan, Bloedel & Powell River                                                               | 700                                  | 17,063          |
| Iron and Steel • Industrie lourde et de l'acier                                                 |                                      |                 |
| Algoma Steel                                                                                    | 800                                  | 45,900          |
| Steel Company of Canada                                                                         | 2,200                                | 46,750          |
| Merchandising • Détaillants                                                                     |                                      |                 |
| Simpsons                                                                                        | 585                                  | 20,109          |
| Geo. Weston, Class "B"                                                                          | 1,650                                | 37,331          |
| Metals • Métaux                                                                                 |                                      |                 |
| Aluminium Ltd.                                                                                  | 1,095                                | 30,934          |
| International Nickel                                                                            | 800                                  | 55,300          |
| Miscellaneous • Divers                                                                          |                                      |                 |
| Canadian Pacific Railway                                                                        | 585                                  | 18,135          |
| Moore Corporation                                                                               | 800                                  | 43,800          |
| Pipelines                                                                                       |                                      |                 |
| Interprovincial Pipelines                                                                       | 585                                  | 50,895          |
| Trans-Canada Pipe Lines                                                                         | 1,000                                | 29,250          |
| Electric Utilities • Electricité                                                                |                                      |                 |
| Calgary Power                                                                                   | 1,390                                | 32,318          |
| International Utilities                                                                         | 1,800                                | 49,275          |
| Gas distribution • Distribution de gaz                                                          |                                      |                 |
| Consumers' Gas                                                                                  | 2,500                                | 60,000          |
| Telephone • Téléphone                                                                           |                                      |                 |
| Bell Telephone                                                                                  | 800                                  | 45,600          |
| Total                                                                                           |                                      | 942,017         |
| Foreign stocks • Actions ordinaires étrangères                                                  |                                      |                 |
| Aviation                                                                                        |                                      |                 |
| North American Aviation                                                                         | 510                                  | \$ 32,015       |
| Chemicals • Produits chimiques                                                                  |                                      |                 |
| E. I. du Pont                                                                                   | 140                                  | 38,198          |
| W. R. Grace                                                                                     | 612                                  | 31,922          |
| Monsanto Chemicals                                                                              | 770                                  | 42,866          |
| Electrical products • Produits électriques                                                      |                                      |                 |
| General Electric                                                                                | 220                                  | 19,930          |
| Insurance • Assurance                                                                           |                                      |                 |
| Insurance Co. of North America                                                                  | 300                                  | 31,869          |
| Lincoln National Life                                                                           | 150                                  | 26,166          |
| Miscellaneous • Divers                                                                          |                                      |                 |
| I.B.M.                                                                                          | 100                                  | 51,468          |
| Petroleum • Pétroles                                                                            |                                      |                 |
| Royal Dutch Petroleum Co.                                                                       | 1,000                                | 51,760          |
| Total                                                                                           |                                      | 326,284         |
| Total securities • Valeur totale                                                                |                                      | 1,268,301       |
| Cash and short term investments • En caisse et placements à courte échéance                     |                                      | 219,797         |
| Total value • Valeur globale                                                                    |                                      | 1,488,098       |

*L'Association Dentaire Canadienne*

Volume 29

Numéro 7

juillet 1963

JOURNAL

*The Canadian Dental Association*

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## **Diagnostic vs traitements**

*par Jean Guimond,\* D.D.S., Montréal, P.Qué.*

Cette communication a comme objectif d'énumérer les caractères que doit posséder un exercice dentaire moderne, digne de la formation professionnelle du dentiste et digne des patients qui se confient à lui. C'est l'expression d'une expérience de cinq années consacrées à modifier l'esprit routinier d'un cabinet pour lui conférer un rendement plus rationnel, plus satisfaisant, plus rémunérateur basé sur des connaissances acquises par la lecture, par des conférences et des journées

d'étude. Le dentiste, qui limite ses examens à la recherche clinique des cavités et à l'évaluation superficielle de l'état des gencives, ne met pas en œuvre la science qu'il a acquise et l'habileté qu'il a développée. Le praticien digne de ce nom établit un diagnostic complet; il a pour ce faire une variété de moyens de nature à lui fournir tous les renseignements dont il a besoin: questionnaire du patient, examen clinique, radiologie, tests de différentes sortes, etc. Armé de tout ce matériel, il analyse et coordonne toutes les informations qu'il a puisées à différentes sources; grâce à sa science et à son expérience, il arrive à poser un diagnostic.

Conférence prononcée à la Société dentaire de Montréal, le 23 avril 1963.

\*Assistant dans le département de diagnostic de la Faculté de chirurgie dentaire de l'Université de Montréal.



Le temps est révolu de traiter les malades en série. Deux exemples peuvent se mettre en parallèle.

1. Un patient s'amène chez le dentiste pour faire extraire deux dents qui le font souffrir. Le dentiste ne jette un coup d'œil rapide sur les dents indiquées par le patient; il donne l'injection d'anesthésie; il extrait les dents; et le patient quitte le cabinet.

Le dentiste connaît-il ce patient? Son nom, peut-être. Quel âge a-t-il? Est-il en bonne santé? A-t-il un trouble constitutionnel sérieux? Ce dentiste a-t-il rendu des services professionnels valables? Ce dentiste a peut-être perdu une occasion exceptionnelle d'éduquer un patient et de lui prodiguer des traitements constructifs.

2. Le même patient se rend chez un autre dentiste. Celui-ci lui pose quelques questions sur son histoire médicale et dentaire. Ensuite sur le motif principal de sa visite. Radiographie. Pendant que l'infirmière développe les radiographies, le dentiste s'informe des symptômes subjectifs, fait un examen clinique de toute la cavité buccale, donne son injection. En attendant l'effet de l'anesthésie, le dentiste donne quelques conseils, attire son attention sur quelques aspects de la denture, éveille son intérêt pour un examen complet; en un mot, ce dentiste fait de l'éducation dentaire. Il lui montre et lui explique les phénomènes pathologiques révélés par sa ou ses radiographies, lui expose qu'il vaudrait mieux n'en extraire qu'une et obturer l'autre; il fait l'extraction, insère un pansement dans la dent à obturer, lui donne les conseils d'usage et lui remet un dépliant éducatif qui illustre les explications données.

Lequel des deux dentistes a été le plus humanitaire, le plus professionnel? Le patient a rapidement fait la comparaison entre les deux. Les patients sont plus favorablement impressionnés par l'attention que leur porte le dentiste que par les services qu'il peut leur rendre. Ils tolèrent mal le désintéressement ou les traitements faits à la hâte. Les gens sont craintifs, nerveux et impressionnables chez le dentiste. Ils veulent des soins

efficaces et individualisés. Ils désirent être considérés comme des personnes qui ont besoin de l'aide du thérapeute et non comme des numéros qui sont traités à la chaîne et sans discernement.

Le dentiste, pour gagner la confiance de la population, doit créer cette confiance, la cultiver en faisant son éducation. Le dentiste éprouve plus de difficulté à s'éduquer lui-même qu'à renseigner sa clientèle. Il doit être "en disponibilité"; il doit être lui-même convaincu de l'excellence des services qu'il peut prodiguer. C'est un facteur vital sans lequel une pratique est vouée à un échec, peut-être pas financier, mais certainement personnel et professionnel!

Alors la grande question, l'éducation personnelle du dentiste d'abord, de ses patients ensuite. Il faut qu'il soit "vendu" à la dentisterie. Il est obligé de s'éduquer lui-même, de se tenir à la page et ensuite de faire l'éducation de ses patients.

Les recherches et les progrès de la profession dentaire, au cours des dernières années, ont surtout porté sur les instruments à grande vitesse et sur les restaurations.<sup>1</sup> L'attention de l'omnipraticien s'est portée presque exclusivement sur les procédures techniques de l'art. Le dentiste est devenu un technicien raffiné, quand il devrait être d'abord un thérapeute et ensuite un technicien. Le dentiste sait préparer des piles de pont, il exécute des obturations superbes, il confectionne des appareils fixes ou mobiles de toute beauté. Mais sait-il toujours faire la relation entre les besoins anatomiques, physiologiques, endocriniens et biochimiques de ses patients et les moyens dont il dispose pour leur réhabilitation dentaire? C'est dans ce domaine qu'entre en jeu la science du diagnostic et de l'élaboration d'un plan de traitement.

#### DIAGNOSTIC

Toute discipline médicale, telle la chirurgie dentaire, repose sur le diagnostic. Le dentiste incapable de porter un diagnostic complet sera toujours un thérapeute médiocre ou du moins un den-

tiste qui prodigue des services désuets. Le temps est révolu où le dentiste regardait dans la bouche d'un patient avec le miroir d'une main et l'explorateur de l'autre pour faire un examen, griffonner des notes sur une tablette et faire un estimé des honoraires. Le dentiste doit être de son temps, se servir de sa science et des tests mis à sa disposition pour faire un examen minutieux de ses patients.

Des soins dentaires exécutés au petit bonheur, comme un diagnostic incomplet, reflètent défavorablement sur le praticien et jettent du discrédit sur toute la profession. Le dentiste, qui, par soucis de minimiser ses honoraires, n'établit pas un diagnostic complet et ni un plan de traitement raisonnable, contribue à baisser l'estime du public pour la profession dentaire. On ne peut imputer aux patients une dentisterie pauvre, mièvre et inefficace — la responsabilité incombe aux dentistes sans conscience et ancrés dans des procédés désuets. Rares sont les dentistes qui peuvent se permettre de perdre des patients par un examen fait à la légère ou par un plan de traitement évasif.

Que faut-il faire? Un diagnostic soigné est la première étape vers des traitements adéquats; et cette étape est rémunératrice pour qui sait s'y prendre. Il s'agit ici d'exercer ses talents, sa science et son jugement pour le bien du patient. Un bon diagnostic exige du temps et de l'énergie intellectuelle. Le dentiste a droit à des honoraires pour ce travail, qui comprend souvent des procédures laborieuses.

Un examen complet suivi de l'élaboration d'un plan de traitement comprend les phases suivantes:

1. Histoire de cas: médicale et dentaire
2. Radiographie de toutes les dents
3. Modèles d'étude articulés
4. Examen clinique: subjectif et objectif — à l'aide de divers instruments et d'épreuves de laboratoire.
5. Interprétation radiologique.

L'ordo du traitement proprement dit s'établit comme suit:

1. Urgence
2. Nettoyage des dents — conseils pour les soins d'hygiène, à domicile

3. Périodontie
4. Chirurgie
5. Endodontie
6. Restauration
7. Entretien — soins personnels de la part du patient; visites de contrôle

### *Radiographie de toutes les dents*

Il est inconcevable que des praticiens n'aient pas d'appareil radiologique à leur cabinet, car cet appareil semble aussi nécessaire que le fauteuil ou l'unité dentaire.

Par ailleurs, il est des dentistes qui disposent d'appareil à radiographie et qui s'en servent seulement à l'occasion. Ils exécutent pourtant des obturations, tous les jours, souvent sur des dents qui souffrent de réactions de toutes sortes, à leur apex; ils extraient des dents, dont les racines peuvent avoir des formes tortueuses et qui peuvent voisiner avec des lésions osseuses significatives. Et ils ne demandent pas à un appareil, disposé à les aider, de leur fournir des renseignements qui faciliteraient leur travail et rendraient leurs traitements plus logiques. Y a-t-il un granulôme ou un kyste qu'il faut curetter, y a-t-il une racine enfouie à l'intérieur du maxillaire? On l'ignore. On consacre, parfois, une vingtaine de minutes pour tenter de déloger une racine avec des élévateurs, par une prise alvéolaire, qui lacèrent et traumatisent les tissus gingivaux et les tissus de support de la dent. En désespoir de cause, ce dentiste décide de recourir à la radiographie pour constater une hypercémentose ou une racine de forme rétentive! Il recourt alors à la technique d'extraction chirurgicale! Il termine par là où il aurait dû commencer! Il aurait mieux valu prendre la radiographie, avant de commencer le travail et expliquer ses difficultés au patient alors qu'il avait encore toute estime et confiance envers son opérateur. Les honoraires plus élevés qu'exige une intervention du genre se justifient plus facilement avant l'opération qu'après.

Il en est de même pour la prothèse. Le

dentiste exécute des pièces bien adaptées; le patient revient pour des retouches interminables jusqu'au moment où le praticien décide de prendre des radiographies pour découvrir des racines demeurées silencieuses longtemps avant de jouer leur rôle de corps étrangers sous la pression des nouvelles prothèses. Il eut été si simple de prendre des radiographies avant d'accepter de confectionner des pièces de prothèse!

Les exemples du genre peuvent se multiplier à l'infini!

La radiologie est une science adaptée aux besoins du dentiste. Elle lui permet de pratiquer adéquatement sa profession; elle le renseigne sur une foule de détails que l'œil ne peut découvrir; son utilisation coûte peu et épargne du temps et des efforts; elle est une source de revenus. Un examen complet est impossible sans la radiographie qui est le sixième sens du dentiste. Il faut que le dentiste, avant de convaincre son patient de la nécessité de la radiographie, en soit lui-même fermement persuadé.

#### *Arguments en faveur de l'examen complet*

Plusieurs dentistes croient que leurs patients, pour des raisons d'éducation, d'économie et de temps, n'accepteront pas les traitements dont ils ont besoin; ils ne leur prodiguent donc que ceux, qu'à leur avis, les patients désirent.

1. Ils craignent de perdre un patient en lui proposant des traitements qu'il n'a pas envisagés.

2. Ils jugent le patient inapte à saisir l'importance de traitements élaborés.

3. Ils pensent que le patient peut comprendre la nécessité de tel ou tel soin, mais qu'il ne veut pas s'en donner la peine.

4. Ils croient que le patient ne peut pas payer les traitements qui s'imposent.

Il est une vérité indéniable: le patient se rend chez le dentiste par intérêt personnel; il se présente donc dans un état psychique réceptif. Il faut donc accentuer cette réceptivité en l'intéressant à l'état de sa cavité buccale. Le dentiste doit user de psychologie pour exposer ses arguments

en faveur d'un examen complet. Si le patient ne semble pas intéressé aux suggestions, il ne faut pas commencer d'examen complet. Le patient doit accepter et collaborer, sinon, le dentiste se limitera au traitement d'urgence (en lui donnant quand même quelques notions de santé dentaire).

Divers procédés s'utilisent pour éveiller l'intérêt du patient pour un examen complet. Il y a l'abord direct et l'abord indirect. L'abord direct s'établit par conversation. L'abord indirect peut se faire à l'aide d'un questionnaire que le patient remplit dans la salle d'attente et qu'il remet à l'assistante qui l'utilise pour inscrire son dossier. Ce questionnaire demande les renseignements suivants:

Nom, prénom, état civil, âge (important pour plan de traitement);

Si enfant: prénom du père (ne jamais discuter avec un mineur);

Adresse: résidence, travail;

Téléphone: résidence, travail;

Occupation, (guide pour choix du patient, traitements à proposer);

Recommandé par: (indice important);

Date de la dernière visite;

But de la visite.

#### *Examen complet*

Le dentiste doit expliquer en quoi consiste un examen complet, en utilisant divers arguments et en stimulant l'intérêt du patient. "Pour bien connaître l'état de votre bouche, il n'y a qu'une façon de l'examiner, qui est la meilleure (intérêt). — Il faut prendre des radiographies de toutes vos dents (lui en montrer) pour voir les racines, l'os, toutes les surfaces des dents, les rapports d'une dent avec sa voisine, avec l'os, en un mot, tout ce que nous cache la gencive. — Il serait malheureux que les obturations que nous allons faire soient faites dans des dents appelées à disparaître dans un avenir prochain (demander l'avis du patient, le laisser exprimer ses sentiments). — Je vais aussi confectionner des modèles de vos dents (lui en montrer en lui expliquant



les renseignements que le dentiste peut en tirer). — Grâce à ces informations, je pourrai examiner à fond votre bouche et obtenir la vraie image de votre état buccal. — A la prochaine visite, nous discuterons. — Que pensez-vous de tout cela?" Le dentiste fixe alors les honoraires pour cet examen qui comprend deux visites. Il ne doit pas fractionner ses honoraires, même si le patient s'enquiert du coût de telle ou telle procédure (radiographies, par exemple). Des honoraires sont fixés pour le tout.

Au cours de cette séance, le dentiste procède à la prise de radiographies, des empreintes, à l'examen clinique; il fixe un second rendez-vous où tous les renseignements prélevés à cette première séance seront discutés devant un tiers, si possible. Il faut que le patient sache bien en quoi il s'engage.

Un patient qui se présente pour une urgence a l'occasion de venir en contact avec un homme de science qui peut l'éclairer sur des problèmes dont l'homme de la rue n'a pas les solutions.

Aussi le dentiste a-t-il le devoir de lui suggérer un examen complet de ses dents et des tissus connexes.

Le questionnaire que le dentiste lui fait subir au sujet de son état de santé a peut-être lieu de l'étonner. Si le patient ne saisit pas la relation qui existe entre son système dentaire et son état général, il faut lui fournir quelques explications. "Votre bouche, vos dents font partie de votre corps. Vos dents ont des rapports directs avec tous vos autres organes; elles ont un système circulatoire, une veine, une artère, un nerf, du sang qui est le même que celui qui se rend dans vos poumons, votre cœur, vos reins, etc. Une dent infectée, le pus et les microbes qui l'entourent peuvent être transportés par le sang à votre cœur, aux articulations, aux muscles etc. et créer ou influencer une maladie."

Le patient doit aussi savoir que certaines maladies dont il peut souffrir peuvent avoir une influence sur les traitements prescrits ainsi:

1. Les troubles cardiaques, les fièvres rhumatismales—consultation téléphonique

avec le médecin traitant. Prophylaxie antibiotique.

2. Le diabète — consultation avec le médecin — prophylaxie antibiotique pour prévenir infection secondaire.

3. Jaunisse — danger d'hémorragie — précautions à prendre pour stérilisation en vue des autres patients et du dentiste (hépatite infectieuse).

4. Epilepsie — occasionne gingivite hypertrophique à cause du dilantin de sodium — faire diminuer la dose ou changer de médication (méthoin).

5. Faiblesse, perte de connaissance, étourdissements, — sédation, séances courtes.

6. Maladies du sang — danger d'hémorragie.

7. Sinusite — douleurs référées — dents abcédées — antibiotiques.

8. Temps de saignement et de coagulation — hémorragie.

9. Allergie à la pénicilline — prescrire autre antibiotique (streptomycine, erythromycine, tétracycline).

Le dentiste doit faire sentir au patient qu'il est le bienvenu chez lui, qu'il ne sera pas traité à la chaîne, qu'il a besoin de soins particuliers à son cas; le dentiste doit être enthousiaste, vanter sa profession, parler de ses réalisations presque miraculeuses! Le praticien doit utiliser tous les moyens mis à sa disposition pour améliorer l'éducation de son patient: illustrations, gravures, modèles, radiographies, etc. Le dentiste doit être convaincu en sorte que le patient, en sortant du cabinet, se félicite d'avoir choisi un dentiste aussi compétent!

#### *Procédure d'examen complet*

*Première visite.* — Cette première entrevue devrait se dérouler dans un bureau privé, comme le médecin le fait avant d'examiner son malade sur la table d'examen. On croit qu'un bureau privé joue un rôle plus important qu'un second cabinet. Sur le pupitre ne devraient se trouver que les objets utiles à faire l'éducation du patient: modèles, radiographies,

littérature. Tout le climat de ce bureau doit porter à une discussion libre et franche. Le patient est ainsi plus détendu et moins distrait par l'atmosphère du cabinet de traitement. On revoit avec lui la feuille d'informations qu'il a remplie et on le questionne sur ses ennuis et ses désirs. On lui explique lentement, à l'aide de radiographies et de modèles, de quelles façons le dentiste peut faire un examen dentaire: (1) un examen superficiel; (2) un examen à l'aide de radiographies coronaires; (3) un examen à l'aide de radiographies de toutes ses dents.

Cette première entrevue se continue dans le cabinet par (1) l'examen clinique de la cavité buccale; (2) la prise des films (on demande au patient de se laver les mains); (3) les empreintes pour les modèles d'étude. On note sur le dossier les questions que pose le patient pour y répondre à la séance suivante. Le patient a-t-il choisi des radiographies coronaires? On note au dossier des régions qu'il faudra vérifier aux Rayons-X, soit immédiatement, soit plus tard. Ces remarques suffisent parfois à convaincre le patient, pendant qu'il y est, de faire radiographier toutes ses dents. (4) traitement d'urgence, si indiqué; (5) remise au patient de littérature éducative sur l'importance de la radiographie, des soins dentaires, etc. pour éveiller chez lui son intérêt à la santé dentaire. On fixe le second rendez-vous en disant au patient, qu'à cette occasion, après avoir étudié les données de l'examen, on pourra lui indiquer le plan du traitement, son coût, le mode de paiements, le nombre de séances nécessaires, etc. Après quoi, il pourra prendre sa décision librement.

On peut aussi remettre au patient un questionnaire plus élaboré sur son état de santé (Figure 1).

*Deuxième visite.*— Cette visite a lieu aussi dans le bureau privé. Il s'agit de rendre compte au patient du résultat de nos examens et de lui présenter une solution à son problème dentaire. Pourquoi faut-il faire part au malade de nos constatations? (1) pour le connaître à fond;

(2) pour gagner sa confiance, pour stimuler son intérêt et le porter à choisir le plan de traitement idéal, les honoraires et le mode de paiement. On ne peut espérer la coopération du patient sans le renseigner sur les avantages de garder les dents présentes, d'améliorer son apparence et de préserver sa santé. Il faut tenir compte de l'aspect sensible de la personne et connaître les relations qui existent entre le système dentaire et les autres organes du corps. Il y a des rapports étroits entre le côté émotionnel, psychologique du patient et ses structures buccales. On ne peut séparer ces deux entités. On ne peut imposer un plan de traitement sans songer à son aspect sensible. Le dentiste, trop souvent, n'a considéré que le côté technique de sa profession sans se préoccuper d'éduquer le public sur les vraies fonctions de sa profession; celui-ci a crû que le rôle du dentiste consistait à combattre la douleur et l'infection.

On peut désigner comme médecin buccal le dentiste qui envisage son patient comme un tout; l'autre, le technicien buccal ne regarde que les dents à réparer, à extraire, le dentier à confectionner.

Le dentiste doit se connaître et comprendre ses patients. Il doit être capable de convaincre ses patients d'accepter des services complets et de les apprécier. La présentation de cas n'est pas une vente au sens strict du mot. C'est plutôt de fournir l'occasion au patient de se rendre compte que sa santé buccale joue un rôle important dans sa vie et de pouvoir, à la fin de la consultation, de choisir intelligemment les traitements dont il a besoin. C'est la revue en compagnie du patient des désordres que les examens ont révélés et des façons de les corriger. Le patient se pose généralement six questions au sujet du plan de traitement: (1) tous ces traitements sont-ils nécessaires? (2) comment vont-ils se réaliser? (3) seront-ils bien longs? (4) seront-ils de longue durée? (5) les honoraires seront-ils élevés? (6) comment pourrai-je payer ces traitements?<sup>2</sup> Le dentiste doit être préparé à fournir des réponses à ces problèmes en termes compréhensibles. Il faut établir des plans de

QUESTIONNAIRE

Nom ..... Occupation .....

Adresse ..... Age .....

Avez-vous déjà été traité(e) ici? Oui Non Si oui, indiquer la date approximative.

Avez-vous déjà traité(e) pour:

|                     |     |     |             |     |     |
|---------------------|-----|-----|-------------|-----|-----|
| Fièvre rhumatismale | Oui | Non | Tuberculose | Oui | Non |
| Diabète             | Oui | Non | Arthrite    | Oui | Non |
| Epilepsie           | Oui | Non | Anémie      | Oui | Non |
| Étourdissements     | Oui | Non | Syphilis    | Oui | Non |

Avez-vous déjà eu à vous plaindre de:

|                     |     |     |                                   |     |     |
|---------------------|-----|-----|-----------------------------------|-----|-----|
| Haute pression      | Oui | Non | Saignement anormal                | Oui | Non |
| Basse pression      | Oui | Non | Réaction à une drogue             | Oui | Non |
| Chevilles enflées   | Oui | Non | Réaction à l'anesthésie           | Oui | Non |
| Maladie de coeur    | Oui | Non | Perte de la voix                  | Oui | Non |
| Toux persistante    | Oui | Non | Sinusite                          | Oui | Non |
| Maladie de peau     | Oui | Non | Asthme ou allergies               | Oui | Non |
| Brûlure à la langue | Oui | Non | Soif excessive                    | Oui | Non |
| Fatigue excessive   | Oui | Non | Trouble de la vessie ou des reins | Oui | Non |

1. Avez-vous eu des maladies de l'enfance de longue durée?

2. Désordres sérieux dans la digestion? Oui Non Si oui S.V.P. les décrire .....

3. Avez-vous déjà eu les dents redressées (orthodontie) .....

4. Traitement mental ou nerveux - expliquez .....

5. Avez-vous déjà reçu des traitements aux Rayons-X ou Radium Oui Non

6. Quand avez-vous eu un examen médical complet la dernière fois?

7. Nom du médecin ..... Son adresse ..... Tél. ....

8. Pouvons-nous le consulter? Oui Non

9. Prenez-vous des médicaments actuellement Oui Non Si oui quels sont-ils? .....

10. Si vous êtes enceinte; à quel mois attendez-vous l'enfant?

11. Fumez-vous? Oui Non (quantité .....

S.V.P. répondez:

J'aimerais à me faire traiter les dents de façon complète .....

J'aimerais à me faire traiter seulement pour l'urgence actuelle .....

FIGURE 1

traitements qui soient à la portée du patient. Aussi le dentiste offre habituellement trois plans: (1) idéal; (2) intermédiaire; (3) indispensable, pour éviter la perte des dents présentes.

Il est parfois possible de présenter deux plans pour arriver au même résultat. Mais là où dans un plan idéal il faut recommander des prothèses partielles fixes, on

ne peut conseiller une prothèse amovible, parce que les ponts sont considérés comme des restaurations supérieures.

Il est à conseiller que la personne qui paie les notes, qui prend les décisions de la famille ou qui agit comme conseiller du patient soit présente aux discussions. La conversation peut commencer par des faits connus du patient, une dent anté-





FIGURE 2 (a) Absence de 2; 2 décolorée; obturations défectueuses. (b) Prothèse partielle fixe: 1 couronne; 2 corps coulé et couronne.

rieure brisée, par exemple. "Regardez la radiographie de cette dent. La zone plus foncée au centre de la racine, c'est la pulpe ou le nerf, etc."

Il est bon de toujours comparer les modèles d'étude et les radiographies du patient avec ceux d'une denture idéale: ces comparaisons sont utiles pour démontrer les facteurs esthétiques et fonctionnels illustrés dans le plan de traitement.

Il faut mettre le patient devant son problème dentaire pour qu'il le réalise et qu'il en accepte les solutions. Quand le dentiste se rend compte que le patient ne saisit pas l'importance de son problème, il doit trouver d'autres moyens, des adjuvants visuels, comme des diapositives de cas, qui ressemblent au sien. Il est impor-

tant de ne pas utiliser des modèles ou des illustrations qui n'ont pas de rapport avec ses problèmes; il serait distrait inutilement. (On ne parle pas de dentiers complets à un patient qui a des dents saines.)

Dès que le patient demande: "Que pouvez-vous faire avec cela, docteur?" celui-ci peut être certain que ses arguments ont porté.

#### PRÉSENTATION DU PLAN DE TRAITEMENT IDÉAL

C'est le moment d'expliquer le plan de traitement idéal. Le dentiste, si un patient a besoin d'une réhabilitation considérable, a le devoir de le mettre au courant et d'en faire l'histoire complète.<sup>3</sup> Trop nombreux sont les malades qui visitent leur dentiste sans avoir connu leur vrai état et sans avoir appris qu'il y avait lieu de corriger des anomalies qui ont amené plus tard des ennuis lourds de conséquences.

Il faut illustrer au patient les raisons qui militent en faveur de tel ou tel service et quels avantages il en retirera, **lui**. Il est le centre d'intérêt au point de vue fonctionnel, esthétique, économique. Il faut que le dentiste ait un langage positif et ne pas dire, par exemple: "Je pense que; il se peut que . . ." Par ailleurs, il ne doit pas faire des promesses illusoire.

Il est bon que toutes les suggestions du dentiste soient illustrées par des objets concrets qu'il peut montrer au patient pour l'aider à comprendre: modèles d'obturations, radiographies, diapositives de cas semblables, avant et après les traitements, modèles de ponts, de prothèses partielles, de couronnes, dessins, images, etc. Le profane, pour saisir toutes les réalisations possibles en dentisterie, a besoin de voir: l'enseignement visuel a éminemment sa place dans l'exposition d'un plan de traitement.

L'intérêt du patient doit être maintenu tout le temps, en lui soulignant les complications qui peuvent survenir et les déboursés qu'il devra effectuer pour réparer des dégâts plus considérables. Il faut le convaincre du confort, de la force de

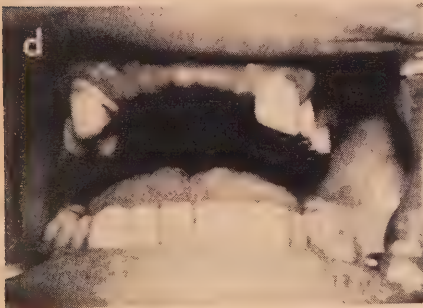
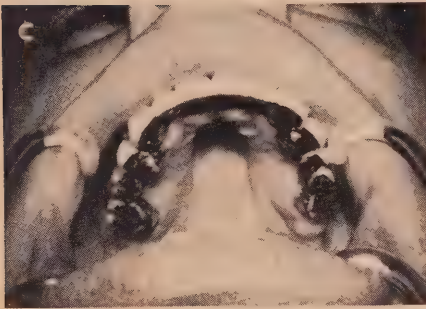
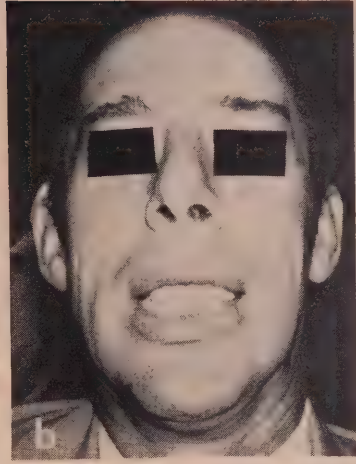
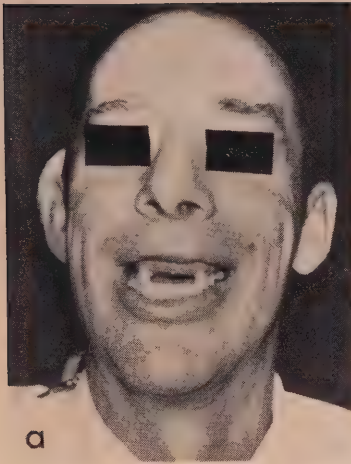


FIGURE 3 (a) Prothèse partielle remplaçant 4321|1234. (b) Cas terminé. (c) Vue linguale. (d) Vue rapprochée. (e) Essaiage — pont Hollywood. (f) Cas terminé.

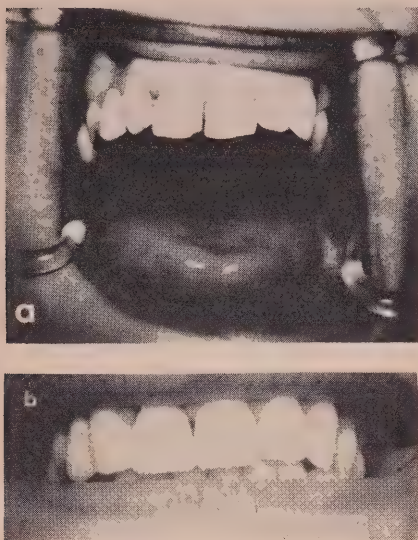


FIGURE 4 (a) 21,12 obturées avec silicate décoloré. (b) Couronnes en porcelaine.

mastication, de l'amélioration esthétique qui suivront fatalement les traitements et des épargnes qu'il fera sur une longue échéance.

Il est à conseiller de poser des questions au patient pour se rendre compte qu'il comprend l'exposition du plan de traitement et qu'il suit le raisonnement. Il faut savoir également s'il formule intérieurement des objections à cette série de traitements.

#### LES HONORAIRES

La question des honoraires termine l'entretien. Il vaut mieux ne pas toucher à cette question si le patient n'est pas convaincu du besoin ou de la valeur des traitements dont on lui a parlé. Ce serait peine perdue et fournir au patient un argument de plus pour qu'il s'ancre dans sa décision.

Au cours du dialogue, il vaut mieux remettre gentiment à plus tard les questions que pose le patient et qui ne cadrent pas dans l'ordre que le dentiste s'est fixé pour son argumentation.

Les honoraires doivent être fixés avec précision et sans crainte. C'est une phase de l'entretien que redoutent plusieurs dentistes.<sup>4</sup> Le patient n'offre pas d'opposition sérieuse aux honoraires s'il a été éclairé convenablement sur la nécessité, la valeur et les avantages des services proposés.

Il faut fractionner les services, mais sans qu'il soit nécessaire de détailler chaque item. Le patient est habitué de recevoir des états de comptes détaillés des maisons d'affaires. Le dentiste doit donc fixer les honoraires de cette façon, par exemple:

|             |       |
|-------------|-------|
| chirurgie   | \$50  |
| périodontie | \$25  |
| obturations | \$100 |
| ponts       | \$450 |

Total \$625 (pour restaurer l'appareil dentaire).

La première question du patient, si le dentiste se contente de lui déclarer que ces traitements coûteront \$625, sera pour demander comment on en vient à cette somme. Et le dentiste devra nécessairement expliquer la composition de ce montant.

Ces honoraires doivent être élaborés avant le deuxième rendez-vous, pour le diagnostic et le plan de traitement, car ce calcul exige de la réflexion en face des modèles d'étude et des radiographies; il faut tout analyser, tout prévoir et ce travail ne peut pas se faire en face du patient, pour avoir la tranquillité d'esprit nécessaire.

Il ne faut pas terminer l'entrevue en fournissant le montant des honoraires, car, en ce faisant, le dentiste risque de compromettre toute l'argumentation qu'il a développée: le patient peut garder ce chiffre des honoraires comme principale impression.

*Arrangements financiers: modes de paiement.* — Voilà une autre question qu'il



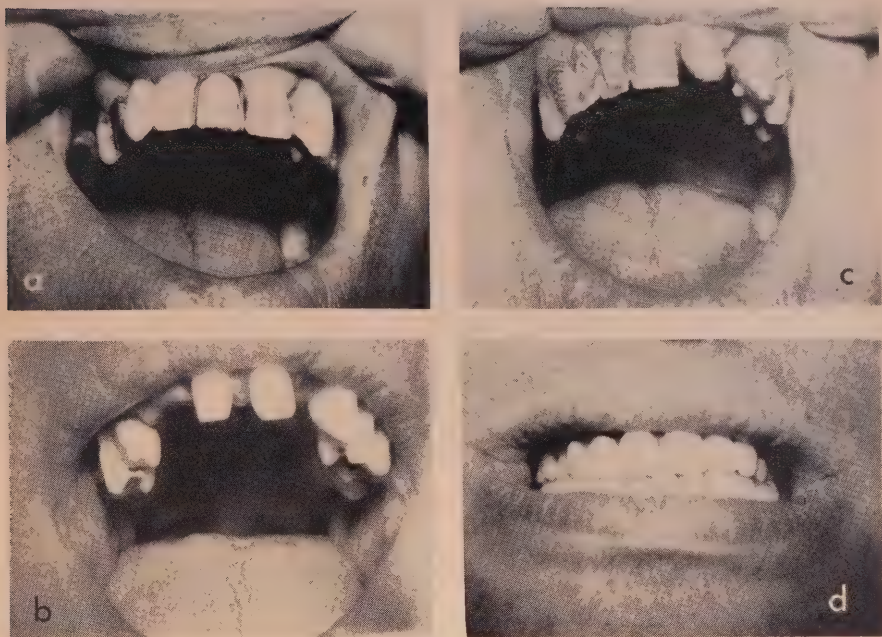


FIGURE 5 (a) Absence de 2; remplacée par pont avec couronnes façonnées et fenêtrées sur 41 (b) Préparation des piles. (c) Squelette du pont droit; contrôle des couronnes "transferts" des attaches du pont gauche. (d) Cas terminé.

faut régler avant de commencer les traitements. On peut suggérer un paiement initial du tiers du montant total des honoraires, le solde étant payé en versements égaux chaque semaine ou chaque mois durant le cours des traitements.

Il peut arriver que la somme des traitements dépasse les capacités budgétaires du patient. Il est alors possible d'entreprendre les traitements les plus urgents en fonction des restaurations plus laborieuses qui sont à venir.<sup>5</sup> Ces restaurations considérables, par exemple des ponts, peuvent être échelonnées au cours des années à venir pour les conditionner aux revenus des patients.

Enfin, il faut indiquer sur un dossier tous les détails se rapportant à l'examen, au diagnostic, au plan de traitements, à la cédule des services et au mode de paie-

ment. Le dossier établit une ligne de conduite pour les prochains mois à venir et indique clairement l'état de la bouche du patient.

RÉSUMÉ: EXAMEN ADÉQUAT ET COMPLET D'UN PATIENT PAR LE PRATICIEN GÉNÉRAL

Buts du premier interview:

1. Obtenir une compréhension bilatérale des besoins du patient.
2. Que le bien-être du patient passe avant toute procédure.
3. Que le dentiste a la responsabilité de protéger la santé dentaire et générale du patient, et que, pour ce faire, il cherche à pratiquer la meilleure dentisterie dont les bases sont un diagnostic et un plan de

traitement basé sur un examen compréhensif complet.

4. Que le patient exprime sa volonté de coopérer, d'accepter un examen complet.

Buts du deuxième interview:

1. Continuer l'éducation du patient.
2. Corriger les fausses conceptions.
3. Augmenter l'intérêt et le désir chez le patient.

4. Expliquer les radiographies, les modèles d'étude, etc.

5. Mettre le patient devant son problème dentaire, et expliquer ce que la dentisterie moderne peut faire pour le solutionner.

6. Faire accepter le plan de traitement.

7. Discuter des honoraires et des modes de paiements.

Cinq étapes dans la conférence avec le patient:

1. Généralités sur les problèmes buccaux — les conditions qui demandent un traitement.

Montrer sur les radiographies les conditions du périodontium, les caries, etc.

Attirer son attention sur les espaces des dents manquantes.

Expliquer sur les modèles d'étude les malocclusions qui existent.

2. Causes de la condition présente:

Les effets qui en résultent.

Expliquer avec les aides visuels le progrès de la carie, des troubles de périodontie.

Etre sûr que le patient comprend bien tout, à ce point, avant de continuer.

3. Comment corriger la condition présente de la meilleure façon:

(a)—en établissant une hygiène, obtenant les caries, traitement de périodontie soins personnels, diète convenable.

—ce qui peut survenir durant le traitement (endodontie, plaque temporaire, etc.).

—ce qui peut survenir après le traitement (douleur, enflure, etc.).

(b)—remplacer les dents manquantes pour conserver celles qui restent en restaurant et balançant l'occlusion.

4. Evaluation du plan de traitement idéal proposé.

Possibilité et comparaison avec d'autres plans.

5. Plan des visites de traitement.

Les honoraires et modes de paiements.

## SUMMARY

*The author describes an examination procedure and a method of presenting a treatment plan which are designed to persuade the patient to accept the treatment that best meets his needs.*

*As a prerequisite the dentist who desires a successful practice where he renders a real service to his patients must be fully convinced of the value of his services.*

*This dentist uses all the available diagnostic aids, including full-mouth radiographs, study models, etc.*

*The patient completes a special questionnaire which is designed to reveal his understanding and appreciation of dental services.*

*There follows a consultation between the patient and the dentist where the patient's condition is fully discussed and a treatment plan proposed. Various visual aids, such as models of restorations and appliances, radiographs, and illustrations of successful treatment in other patients, are extensively used for this purpose.*

*Fees and the method of payment form the final part of the discussion.*

*The entire procedure is based on psychological concepts of teaching and demonstration.*

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1986 est Ontario

## résumés

### ANKYLOSE DENTAIRE

W. Biederman. *Am. J. Orthodont.*  
48:670, 1962.

L'ankylose dentaire, qui est une fusion du cément avec l'os, constitue une anomalie de l'éruption de la dent qui a ordinairement une influence grave sur l'occlusion. Ce phénomène se rencontre plus fréquemment dans les dents primaires (au-delà de 1 contre 10) et dans les dents inférieures (au-delà de 1 contre 2). L'ankylose dentaire se situe presque exclusivement dans les molaires — primaires et permanentes — et à des époques physiologiques fixes (elle s'établit le plus souvent dans la dentition primaire ou mixte).

L'ankylose dentaire n'est pas due au hasard et elle n'est pas une manifestation accidentelle; elle n'est pas causée non plus par une pression excessive ou traumatique, quoique ce soit là la croyance la plus répandue. L'ankylose dentaire peut être amenée par un désordre du métabolisme.

Le traitement de ces cas doit tenir compte de divers facteurs: dent primaire ou permanente, début du phénomène, époque de sa découverte et location de la

dent intéressée. Il y a six possibilités:

1. S'il s'agit d'une dent primaire et s'il y a une permanente pour la remplacer, il faut l'extraire immédiatement et, si nécessaire, mettre un appareil pour maintenir l'espace.

2. S'il s'agit d'une dent primaire et s'il n'y a pas de dent permanente pour la remplacer et si l'ankylose est précoce au point de favoriser un "enfouissement" de la dent, il faut l'extraire et maintenir l'espace.

3. S'il s'agit d'une dent primaire, s'il n'y a pas de permanente pour la remplacer et si l'ankylose est tardive, il faut établir, à l'âge adulte, des contacts proximaux et occlusaux.

4. S'il s'agit d'une dent permanente et d'une ankylose précoce, il faut luxer la dent. Si après avoir luxé la dent à plusieurs reprises, il n'y a pas de résultats, il faut l'extraire; il ne faut pas la laisser s'enfoncer.

5. S'il s'agit d'une ankylose tardive, la dent permanente devrait être luxée. Si la tentative est sans succès et si la dent s'enfonce, il faut la rebâtir, à l'âge adulte.

6. Il faut négliger une dent primaire ou permanente ankylosée et enfouie profondément, à moins qu'elle ne soit infectée ou qu'elle ne soit une menace actuelle ou possible pour l'occlusion.

Nombre des dentistes au Canada • Le 1er janvier 1963 il y avait au Canada 5,999 dentistes enregistrés, dont 101 femmes.—Bureau des recherches économiques de l'A.D.C.



## Hypnodontie vs procaine

La science dentaire a profité, depuis un peu plus d'un demi-siècle, de l'apparition de machineries et de techniques, qui sont venues rendre sa pratique beaucoup plus aisée et dont les bienfaits se manifestent sur le travail lui-même, sur le dentiste et sur le patient. Citons simplement comme exemples l'anesthésie, locale ou générale, et les turbines à grande vitesse.

Mais depuis quelques années, une science différente est venue prêter son concours à la dentisterie: il s'agit de l'hypnotisme. L'application de cette science à la pratique de notre profession (elle porte alors le nom d'hypnodontie), d'abord lancée chez nos voisins du sud, semble vouloir s'infiltrer au Canada et l'on voit plusieurs confrères s'y adonner ou du moins s'y intéresser vivement.

Il y aurait peut-être lieu de considérer la proportion qui existe entre ces deux groupes. Ceux qui s'y adonnent forment, semble-t-il, un nombre infime, à les comparer avec le groupe des intéressés encore passifs. Malgré leur petit nombre, les hypnotiseurs ont formé des groupements officiels, leur servant de tremplin pour des revendications éventuelles et c'est sans doute là un progrès prometteur. On suppose, comme cela serait normal, que ces groupements deviendront graduellement de plus en plus nombreux et puissants pour se permettre des revendications plus osées, et cela dans un avenir plus ou moins rapproché.

Par ailleurs, chez l'autre groupe, une enquête recherchant la raison de leur abstention ou de leur retard à se lancer

activement dans cette pratique aboutirait probablement à la rareté des cours sur cette science, ou à leur publicité trop silencieuse, s'il en est. Vaut-il la peine de parler du coût presque prohibitif de ces cours, lorsqu'il y en a?

Des causeries, accompagnées de démonstrations, ont été et sont encore données dans un assez grand nombre de sociétés dentaires pour qu'à peu près tous les dentistes connaissent cette pratique et en pensent beaucoup de bien.

On connaît donc suffisamment l'hypnodontie pour savoir que tous les genres de patients ne se prêtent pas à son application, au point que dans certains cas, même, il y a nette contre-indication; et pour savoir également, par contre, qu'il existe des tempéraments, chez les dentistes eux-mêmes, aucunement disposés à ce genre de pratique. Mais quels sont-ils, se connaissent-ils eux-mêmes? Probablement pas toujours. Si on a vu des candidats, poussés par un goût légitime, entreprendre des études en chirurgie dentaire pour se faire dire, après un certain temps par des personnes responsables, qu'ils n'avaient pas les aptitudes nécessaires, la même chose peut se répéter pour un dentiste qui a du goût pour l'hypnodontie. Mais faudra-t-il qu'il suive une série de cours dispendieux pour se faire dire qu'il n'a pas les aptitudes? Connais-toi toi-même, dit le grec, mais il le dit précisément parce qu'il s'agit là d'un sujet des plus difficiles.

Si les autorités des facultés dentaires de nos universités étudiaient la question,

elles trouveraient peut-être quelque part dans les quatre années du cours un peu de temps pour donner à leurs étudiants quelques cours de base sur l'hypnodontie, de façon à ce que les aptitudes nécessaires soient plus facilement découvertes. Ainsi les candidats aptes pourraient se lancer plus avant, une fois leurs études terminées, sans crainte de perdre leur temps.

L'à-propos d'une telle suggestion sera

peut-être discuté: tant mieux s'il l'est dans ce même Journal. La discussion ne fera que renseigner les confrères sur l'hypnodontie sous tous ses aspects. Et il en résultera possiblement un plus grand nombre d'adeptes, pas au point de nuire au commerce des fabricants de procaïne, mais pour le plus grand bienfait de beaucoup de patients, ce qu'il faut avant tout rechercher.

C.T.

## les actualités dentaires

### L'Association

#### LA CONSTRUCTION DE LA NOUVELLE AILE DU SECRÉTARIAT EST COMMENCÉE

L'agrandissement de l'édifice du secrétariat de l'Association dentaire canadienne, à Toronto, est commencé depuis le 6 mai. Cette addition de trois étages, qui avait été approuvée par le Conseil des Gouverneurs, l'année dernière, a été retardée par des complications de zonage et de règlements municipaux. Le permis de construction n'a été obtenu qu'à la fin d'avril.

Cette nouvelle aile sera construite à l'arrière de l'édifice actuel auquel elle sera reliée par des marches situées dans un couloir éclairé; elle aura son propre système de chauffage et d'autres aménagements autonomes. Le secrétariat actuel était une ancienne résidence achetée et remodelée en 1950 par l'Association dentaire canadienne.

La pièce la plus importante de cette addition sera une salle de réunion de trente pieds carrés. La salle d'assemblée actuelle qui était devenue trop petite deviendra une bibliothèque. L'imprimerie sera aménagée au premier plancher de la nouvelle section. Le second étage comprendra la salle de réunion et des bureaux pour le secrétaire et sa secrétaire. Le troisième étage ne sera pas com-

plètement terminé, mais il pourra servir à y installer d'autres bureaux.

Le secrétariat qui a environ 200 pieds de profondeur aura de l'espace de stationnement derrière la nouvelle construction.

#### LA LIVRAISON DE MAI DU JOURNAL CONSACRÉE À LA PÉRIODONTIE

Selon un éditorial de la livraison de mai 1963 du *Journal de l'Association dentaire canadienne*, ce numéro spécial renferme "un bref exposé de la science et de l'exercice contemporains de la périodontie." Six périodontistes distingués du Canada et un omni-praticien ont écrit six articles intéressants (cinq en anglais, un en français, suivis de résumés bilingues) pour cette livraison particulière. Chacun des articles fournit des renseignements utiles et pratiques pour les dentistes de ce pays.

Dans le premier article, "Intégration de la périodontie dans un exercice général," un omni-praticien de Ste-Catherine, Ontario, le docteur James Sim, décrit les effets des divers traitements dentaires sur la périodontium et explique comment l'omni-praticien peut intégrer ces traitements dans un programme équilibré de traitements pour le patient.

Le docteur John Findlay, de Halifax, souligne la séquence des phases nécessaires pour

poser un diagnostic et un plan de traitement pour le patient souffrant de périodontite. Les traitements sont classifiés selon leur priorité, d'abord le soulagement de la douleur aiguë, ensuite l'élimination des régions infectées, des clapiers, l'équilibration de l'occlusion et les autres restaurations.

Le docteur R. B. Cameron, d'Edmonton, dans un article intitulé "Équilibration d'occlusion," décrit, phase par phase, une méthode pratique pour créer une articulation balancée des dents.

Le docteur Georges Pelletier, de Montréal, dans un article profusément illustré, traite de l'élimination par la chirurgie des clapiers périodontaires; il décrit la gingivectomie, la chirurgie osseuse, l'opération du lambeau et la chirurgie muco-gingivale.

Dans un article parsemé de clichés, intitulé "Problèmes fréquents en périodontie", le docteur J. R. Trott, de Winnipeg, discute du saignement gingival, de l'ablation du tartre, du contrôle des hyperplasies gingivales et du traitement de la péricoronite.

Enfin, un article écrit en français, avec résumé en anglais, par les docteurs Wainberg et Dines, de Montréal, fait part des modifications récentes apportées à l'enseignement sous-gradué de la périodontie à l'Université de Montréal.

Cette livraison consacrée à la périodontie est la deuxième d'une série de numéros spéciaux publiés périodiquement par le *Journal de l'Association dentaire canadienne*. La première était consacrée à la périodontie et elle a été publiée en février 1963.

## Hygiène publique

### ON DEMANDE AUX CONSEILLERS MUNICIPAUX DE SE PRONONCER SUR LA FLUORATION

L'éditorial suivant a paru, le 8 avril, dans le *Victoria Daily Times*, sous le titre: "Ça prend du courage."

"Un dentiste de l'Université d'Alberta a blâmé les politiciens de se fourvoyer au sujet de la fluoration de l'eau des aqueducs. Cette remarque devrait s'adresser surtout aux conseillers municipaux que la question intéresse davantage que les députés à des niveaux supérieurs.

"La plupart des conseillers élus par le peuple et les chefs de services éludent le problème. Ils pensent trop à leur intérêt personnel, face à la faible minorité d'une région qui s'oppose à cette mesure. Et pourtant, ces conseillers, en vertu de leur mandat et de l'intérêt public, devraient se familiariser avec la littérature traitant de fluoration. Ils devraient au moins lire un peu de cette masse de renseignements sur ce qu'on a appelé "la mesure de santé qui a été la plus fouillée au cours de l'histoire." Ils devraient noter les noms des médecins, des dentistes et des experts qui préconisent la fluoration et leurs qualifications à justifier leur opinion.

"Ils devraient aussi prendre connaissance des arguments invoqués par les adversaires de cette mesure et, de la même façon, retenir leurs noms et évaluer leurs qualifications. Ils devraient, à l'aide de tout ce matériel, se former une opinion et avoir le courage de la défendre en public. Les protagonistes de cette mesure et les parents qui paient des notes de plus en plus élevées pour faire traiter les dents de leurs enfants n'en demandent pas plus. Et on verrait sans tarder la fluoration s'imposer partout et s'améliorer la santé dentaire des enfants de ce pays."

### LE FLUOR ABATTE LE TAUX DE LA CARIE À BRANDON

Le Ministère de la Santé de Manitoba annonce que le taux de la carie dentaire chez les enfants de Brandon a baissé d'une façon "dramatique" depuis que cette ville a adopté la fluoration, en 1955.

Le nombre des enfants de six à huit ans n'ayant pas de carie dans leurs dents permanentes a augmenté de 32 pour cent qu'il était en 1955 à 74 pour cent en 1962. Chez les enfants de neuf à douze ans, 9,5 pour cent d'entre eux n'avaient pas de carie en 1955, contre 32,7 pour cent en 1962. Le docteur R. A. Connor, directeur provincial d'hygiène dentaire, dans son dernier rapport, déclarait "que cette baisse prend des proportions 'dramatiques' dans le groupe d'enfants de 6, 7 et 8 ans, et des proportions encore plus 'dramatiques' chez les enfants de 9, 10 et 11 ans."

*Le fonds de la bibliothèque de l'A.D.C.* • La bibliothèque de l'Association dentaire canadienne rend service aux membres de l'Association en leur prêtant des volumes et des périodiques. L'acquisition de ces volumes et périodiques s'accomplit au moyen d'un fonds mis à la disposition de la bibliothèque. On accepte avec reconnaissance toute souscription venant des membres de l'Association. Toute somme souscrite peut être déduite de l'impôt sur le revenu.



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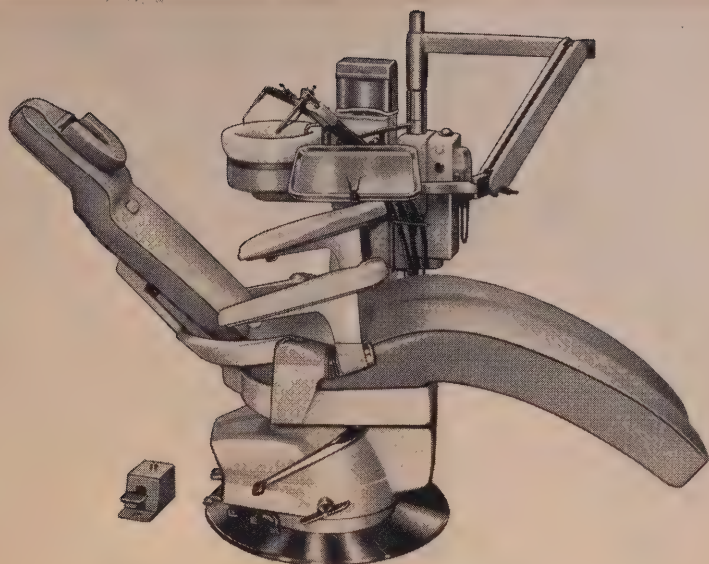
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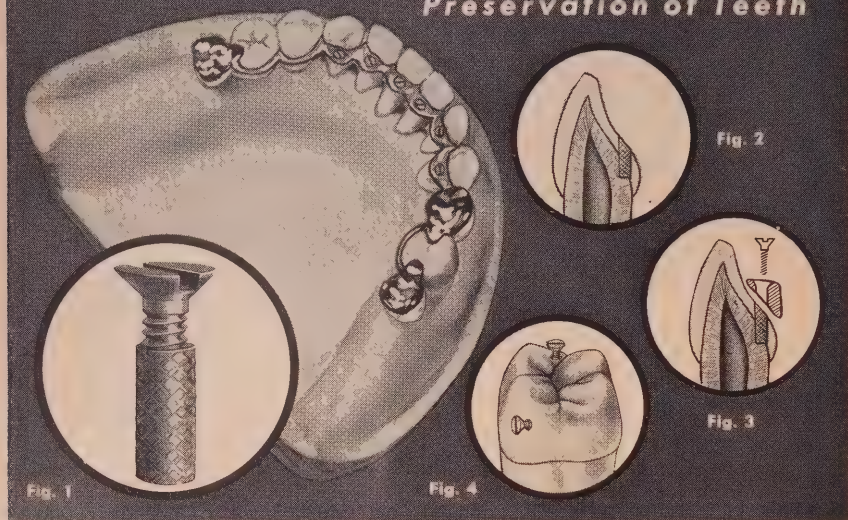
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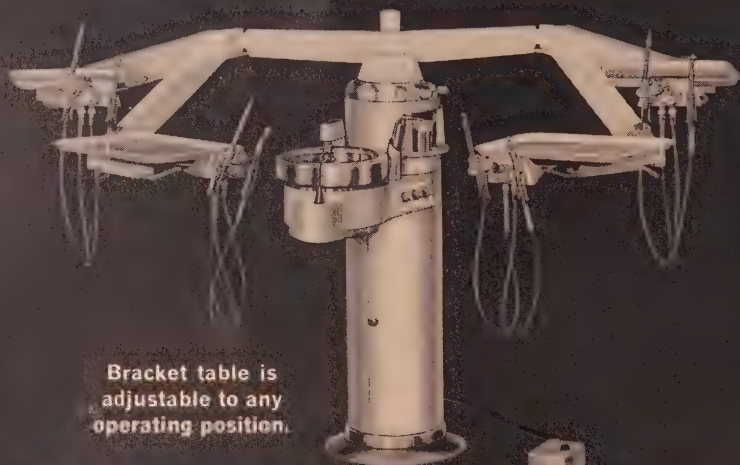
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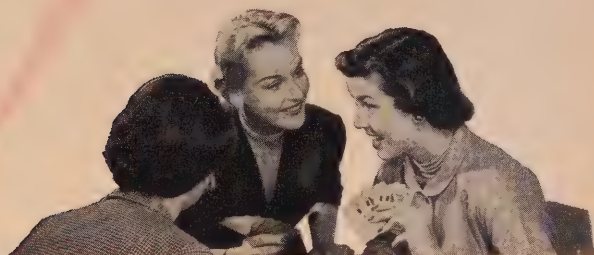
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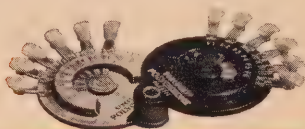


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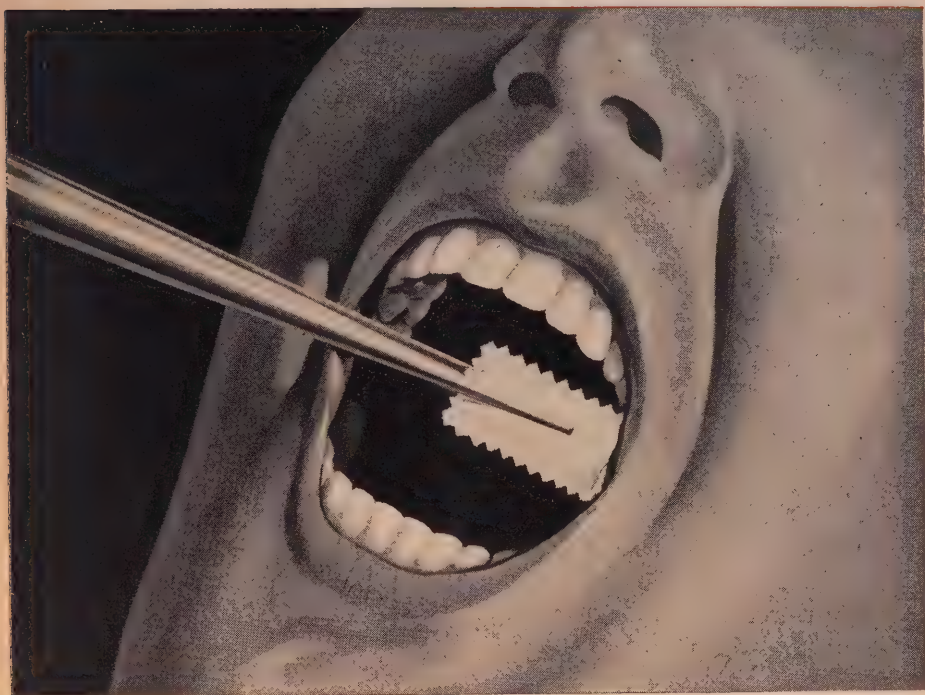
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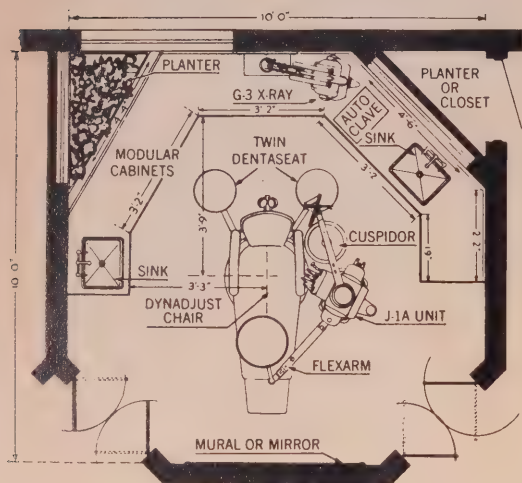
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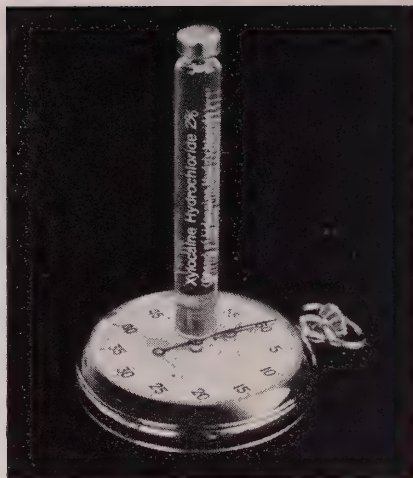
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*L'Association Dentaire Canadienne*

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VOLUME 29

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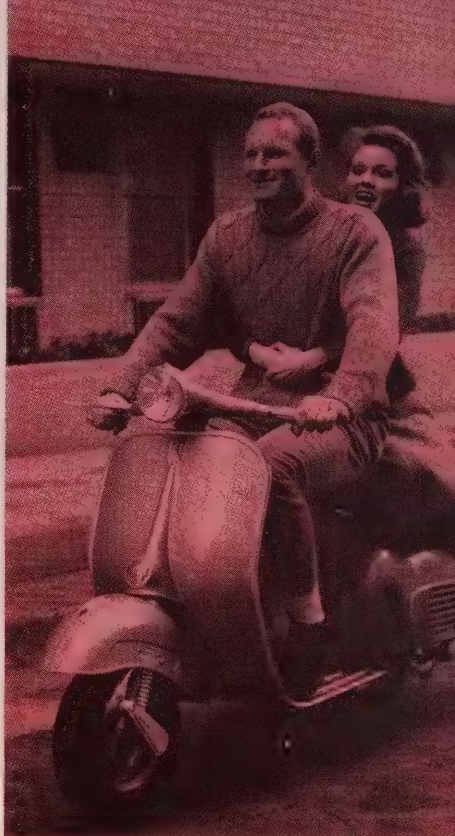
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References: 1. Weil, C., Santangelo, C., Welham, F. S., and Yackel, R. F. Clinical evaluation of mepivacaine hydrochloride by a new method, J.A.D.A. 63:26 July 1961. Other references total 163; more papers in press. Available reprints supplied on request.

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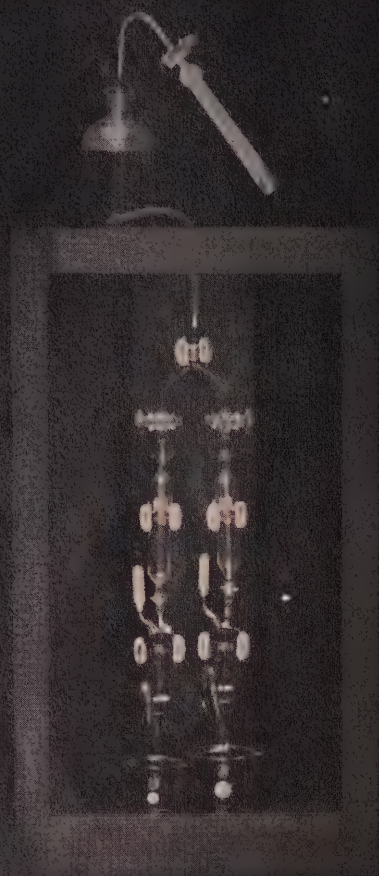
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(1) Pigman, W.; Elliott, H. W., Jr., and Laffre, R. O.: J. Dent. Res. 31:627, 1952. (2) Francis, M. D., and Meckel, A. H.: J. Dent. Res. 39:697, 1960.





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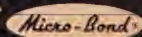


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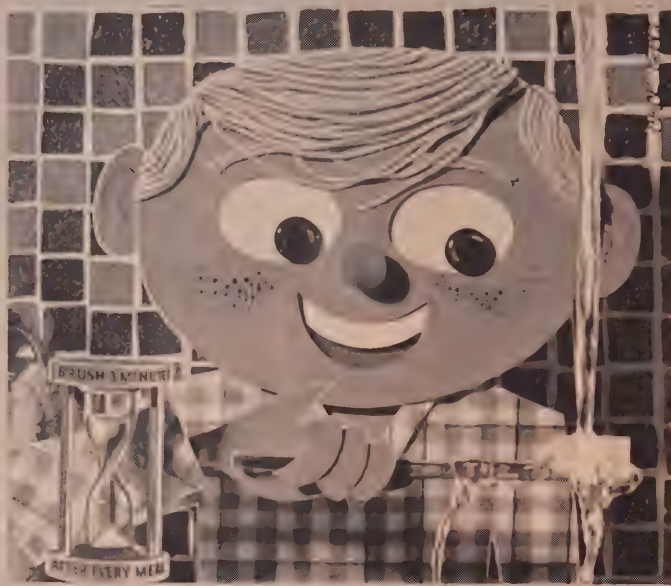


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**lead-ing** (lēd'ing), *n.* the action of one that leads; guidance; direction. *adj.* 1. that leads; guiding. 2. chief. 3. playing the lead in a play, motion picture, etc. —*SYN.* see *chief*.

**leading article** (lēd'ing ar-ti-kul), *n.* principal editorial or article in a newspaper.

**leading edge** (lēd'ing ēj), *n.* 1. in aeronautics, the front edge of a propeller blade. 2. in nautical usage, that edge of the ship which first encounters the wind.

**leading light** (lēd'ing līt), *n.* 1. a light used to guide ships into and out of a harbor. 2. [sing.], one of the most important members of a community, etc.

**leading question** (lēd'ing kwesh-ən), *n.* a question in such a form as to suggest the answer.

**leading string** (lēd'ing strīng), *n.* 1. a string used to guide a child. 2. a guide or support.

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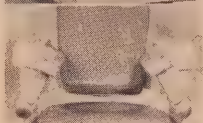
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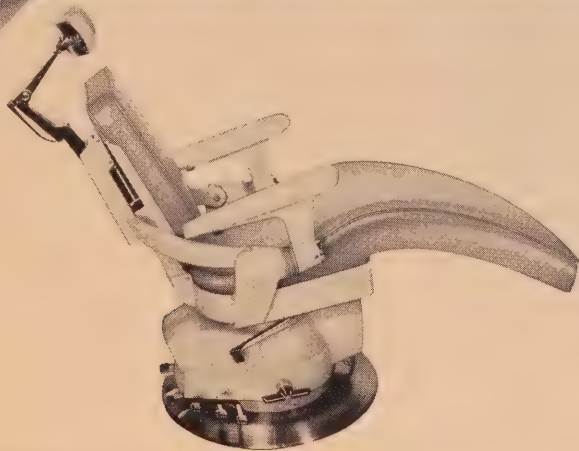
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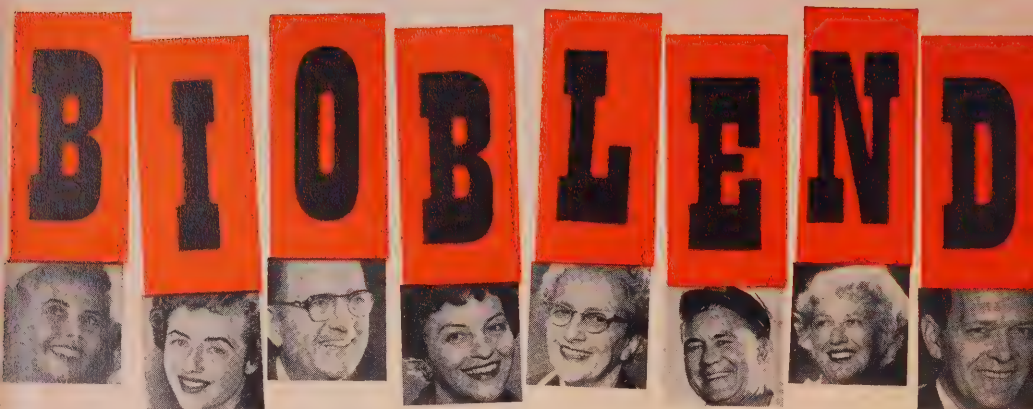
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Published monthly for the Canadian Dental Association by Gordon V. Allen Publications, 95 King Street East, Suite 205, Toronto, Ontario. Telephone 368-6251.

Gordon V. Allen, Advertising Manager.

Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

Authorized as Second Class Mail, Post Office Department, Ottawa, and for payment of postage in cash.

All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month.

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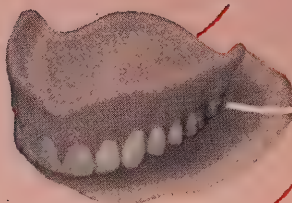
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Volume 29

Number 8

Toronto

August 1963

JOURNAL

*L'Association Dentaire Canadienne*

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**New method of predetermining normal  
maxillary dental arch width**

*M. Oguz Baz,\* D.D.S., Istanbul, Turkey*

This paper is an abstract of a more extensive unpublished article which was intended to point out that predetermination of arch form is still an indispensable step in the analysis of both extraction and nonextraction orthodontic problems.

Angle,<sup>1</sup> when he established a norm for determining the balance of facial features, stated, "It is that the best balance, the best harmony and the best proportion of the mouth in its relation to other features require that there shall be the

full complement of the teeth and each tooth shall be made to occupy its normal position — normal occlusion." From this statement it may be deduced that in the treatment of a deformed dental arch a full complement of teeth is required. This may be interpreted to mean that extraction is not permissible for orthodontic purposes and that treatment must be effected by expansion when it is necessary to gain space. On the other hand, expansion of a contracted arch, of course, cannot be limitless. Thus it is necessary to predetermine what the normal width of a deformed dental arch would have

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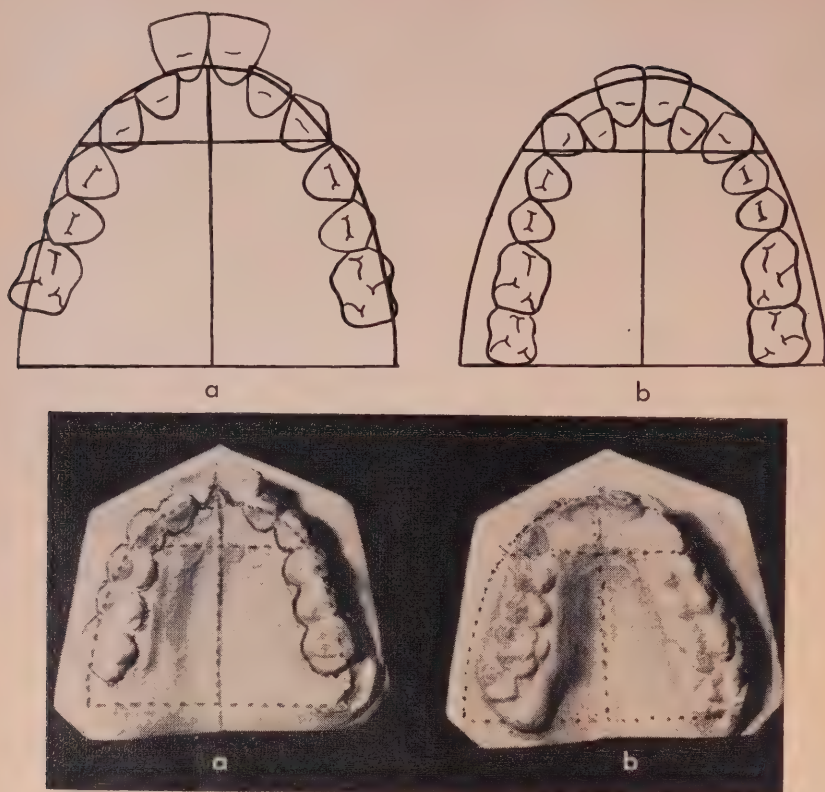


FIGURE 1 (a) An extraction case. (b) A nonextraction case.

been if the deformation had not occurred. Such information would be useful in deciding to what extent such a deformed arch could safely be expanded in the restoration of normal arch size and form.

Hawley<sup>2</sup> applied Bonwill's<sup>3</sup> arch predetermination method, introduced for prosthodontic use, to the analysis of orthodontic cases. The idea was so well received that many similar methods were put forth by various other authors. Although predetermination of the normal dental arch width may be considered as an important step in the treatment plan-

ning of nonextraction orthodontic problems, it also has application in the treatment planning of extraction cases if a method based on the relation between the facial measurements and the dental arch width is used (Figure 1).

If a dental arch is crowded but not contracted through muscular or environmental forces, extraction may be indicated as part of the treatment. Such an arch may seem narrow, but when it is expanded to a degree sufficient to accommodate all the teeth, it may approach a width which is not appropriate to the



facial pattern of the patient. On the other hand, a dental arch may be crowded and contracted due to environmental influences. In this instance the deformity may be corrected by expanding the arch to the extent determined by the facial form.

Salzmann<sup>4</sup> has stated: "(Since) the law of variation of structure, form and function is inherent to the human race, complete standardization would be incompatible with life."

As the author understands it, Salzmann infers that no standardization can be made for normality. Surely he is right in the case of growing individuals, since growth potentialities of individuals are so variable. But after the attainment of adulthood, and taking into consideration still prevailing variability in structure, form and function, some sort of standardization may help the orthodontist with case analysis and treatment planning.

In view of this, a brief review of most of the methods currently in use for predetermining the individual normal arch width would seem to be appropriate. In addition, a new method of predetermining dental arch width appropriate to the facial pattern of the patient is also described. The various methods may be grouped as follows:

One system uses the length obtained from the sum total of the maximum widths of the central and lateral incisors and the cuspid of one side of the maxillary dental arch as the fundamental element of the method. Benagiano<sup>5</sup> and others who developed this method postulated a relationship between tooth size and dental arch width.

Some authors have demonstrated a correlation between tooth size and some particular measurement of the maxillary dental arch. They express this relation in an index, such as Pont's Index.<sup>6</sup>

A method introduced by Okyay<sup>7</sup> illustrates Pont's Index in a geometric construction.

There are other methods which determine normal dental arch size by putting the dental units into proper occlusal relationship. De Coster<sup>8</sup> cites Stanton, John-

son, Herber and Haurtiguët as having introduced methods along this line.

Berger<sup>9</sup> uses the relation between bizygomatic distance and the distance between Pont's points on the maxillary first molar to determine the normal size of the maxillary dental arch. It is claimed that the ratio between these distances is 1:3.

There are methods in which the mutual relationship between one or two measurements of the face and the maxillary dental arch is used to illustrate normal dental arch size in the geometric construction. Izard<sup>10</sup> and Koev<sup>11</sup> have introduced methods of this type.

#### AUTHOR'S METHOD

In the method introduced by the author, certain measurements made directly on the face of the individual are used to determine the normal dental arch size in a geometric construction. The detail of this method is as follows:

More than one hundred adult individuals, male and female, who had balanced and harmonious facial forms with neutroclulsion and proper function, were measured. Measurements were recorded for only fifty-four individuals. The points of departure for the measurements were: the nasion (N), the incisive point (Inc), the gnathion (Gn), the mentale (Me and Me') or the orbitale (Or-Or) as illustrated in Figure 2. The nasion is located at the frontonasal suture. This is seen in profile as an irregular notch (Graber<sup>12</sup>). The incisive point corresponds to the contact point of the central incisors. The gnathion is the most outward and everted point on the mandibular symphysis (Graber<sup>12</sup>). The orbitale is the lowest point in the margin of the orbit. It is midway between the palpebral and palpebro-jugal grooves, on the plane which passes through the pupils parallel to the median plane when the subject is looking directly ahead. The mentale is the point located on the lower border of the mandible at the junction of the chin and cheek.

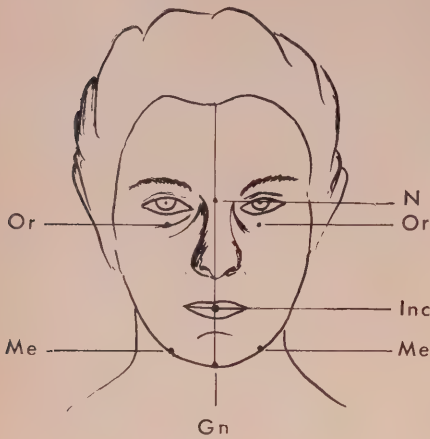


FIGURE 2 Location of the points used in the author's method.

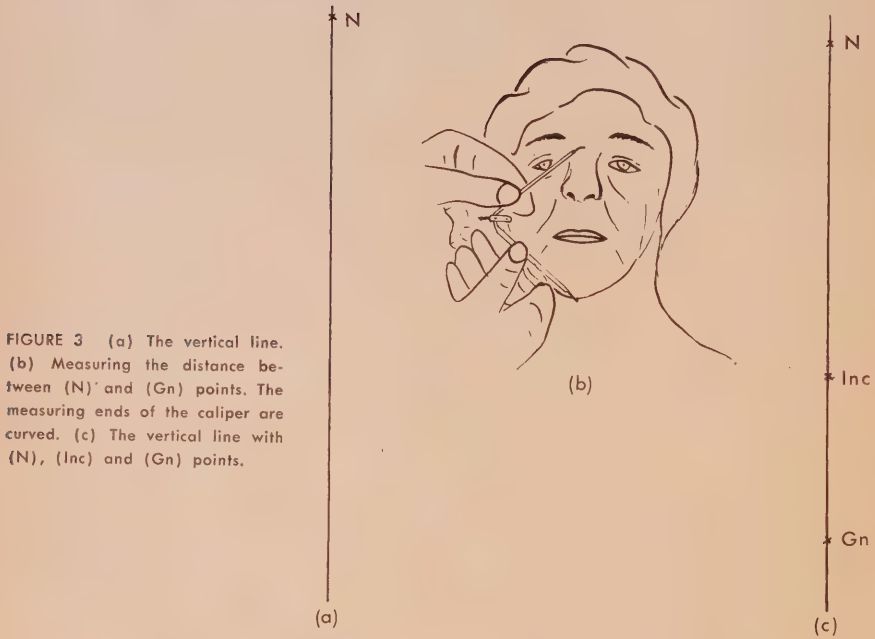


FIGURE 3 (a) The vertical line. (b) Measuring the distance between (N) and (Gn) points. The measuring ends of the caliper are curved. (c) The vertical line with (N), (Inc) and (Gn) points.

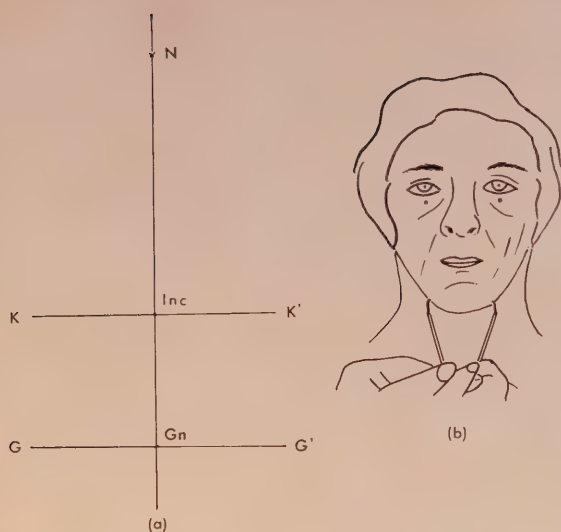


FIGURE 4 (a) Perpendicular lines drawn to the vertical line at points (Inc) and (Gn). (b) Measuring the distance between (Me) and (Me') points.

The steps in measuring the distances between the facial points and drawing the normal arch diagram are as follows:

1. Taking a vertical straight line as midline of the face, a point is arbitrarily marked near the top of this midline, as (N) point (Figure 3a).

2. Distances between the points (N) and (Gn) and the points (N) and (Inc) are measured directly on the face, using a caliper (Figure 3b). These distances are marked off on the vertical line starting from the (N) point as illustrated in Figure 3c.

3. Two perpendicular lines K-K' and G-G' are drawn to the vertical line at the points (Inc) and (Gn) as shown in Figure 4a.

4. The distance between the mentale points is then measured (Figure 4b). This approximates the distance between the

two orbitale points.\* This distance is marked on the line G-G', having the point (Gn) just at the middle (Figure 5). Sometimes there may be a discrepancy between bi-orbital distance and the distance between mentale points. If this should be the case the distance (Me) to (Me') is used.

5. The distance between the most prominent points on the buccal surfaces of the maxillary cuspids is marked on the line K-K', having the point (Inc) just at the middle (Figure 5).

6. The mentale (Me and Me') points are joined with the point (N). These lines intersect the line K-K' at the points where the most prominent points on the vestibular surfaces of the maxillary cuspids are located (Figure 5). When this observation was made in 54 cases, 75 per cent had a

\*Or-Or distance may be used in place of Me-Me' distance. Orbital points are easily located.



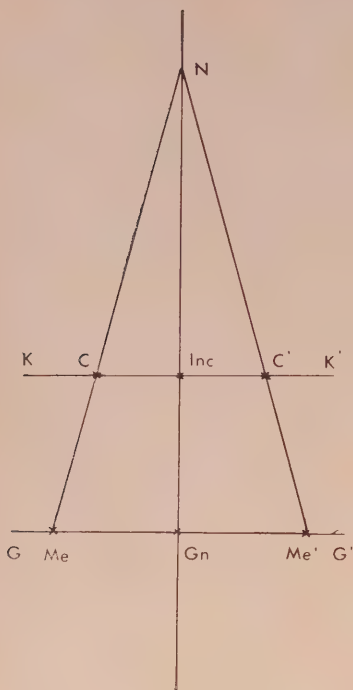


FIGURE 5 (Me) and (Me') points are located on the line G-G' and connected with point (N).

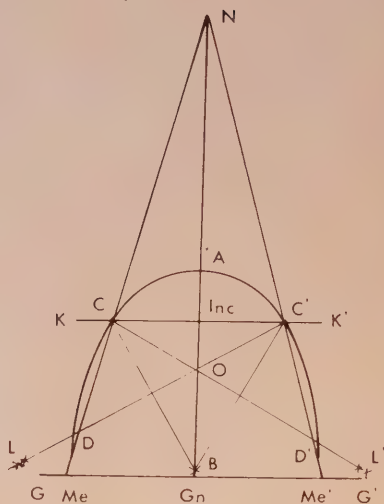


FIGURE 6 A dental arch diagram is drawn by using C-C' distance as the basic element.

deviation range of 2 mm. This means the maximum deviation is 5 per cent.

Thus, it becomes evident that by drawing the facial lines N-Me and N-Me' as described above, one may determine two important points (C) and (C') on the maxillary dental arch.

The author has developed a new way of drawing a maxillary dental arch diagram derived from the arch predetermination methods of Hawley and Benagiano.<sup>2</sup> This method uses the C-C' distance as the starting element of the procedure. The subsequent steps are as follows:

Using C-C', an inverted equilateral triangle CBC' is drawn (Figure 6). The centre of this equilateral triangle falls on

the vertical line N-Gn at the point (O). With the point (O) as a centre, the arc CAC' is drawn. This arc CAC' will correspond to the arc determined by the incisal edges of the six anterior teeth. In this way the front part of the maxillary dental arch diagram is made. The posterior part of the diagram is made by connecting (C) with (O) and extending the same; likewise connecting (C') with (O) and extending the same. The compass is opened to the width of Me-Me'. With (A) as a point we find (L') and likewise with (A) as a point we find (L). Then with (L') as a centre, the arc CD is drawn, and likewise with (L) as a centre the arc C'D' is constructed. These two arcs complete the drawing of the individual arch

diagram. Thus an individual normal maxillary arch diagram is obtained from the measurements made directly on the face of the patient. This arch diagram is appropriate to the patient's facial pattern (Figure 6).

This method has now been used for about seven years with satisfactory results. Each diagram drawn by this method to represent the individual dental arch of each of the 54 subjects was compared to the arch of the maxillary plaster cast obtained from each individual. For this purpose the actual dental arch was carefully pencilled as a diagram by placing the plaster cast on a piece of paper (Figure 7a), with the occlusal surfaces of the teeth in contact with the paper. In addition Izard's and Benagiano's arch predetermination methods were applied to each subject and dental arch diagrams were drawn for comparison with the diagram obtained by the author's method and the diagram obtained from the plaster cast (Figure 7d and 7e). It was found that there is approximately 60 per cent correlation between the various methods. In this way, fifty-four tables were obtained. Figure 7 illustrates one of these.

#### APPLICATION OF THE METHOD

After the diagram is drawn, a translucent sheet, such as tracing paper or fixed cellophane, is placed over it and the diagram is copied. The midline and the line connecting the (C) and (C') points are recorded.

The translucent sheet may be superimposed on the plaster cast of the case at hand to be compared with the dental arch. In doing so, care must be taken to see that the midline and cuspid-to-cuspid lines of the cast coincide with those of the diagram. To be normal, the curvature of the diagram must pass over the contact points of the molars, bicuspid and cutting edges of incisors.

The practical application of the method is as follows:

1. When the predetermined dental arch diagram is larger than the actual dental arch of the patient, expansion may be indicated (Figure 1b).

2. When the predetermined size of the dental arch is equivalent to the size of the actual dental arch of the patient, extraction may be indicated (Figure 1a).

#### SUMMARY

The purpose of this article is to point out that individual dental arch predetermination is one important step in orthodontic case analysis of both extraction and nonextraction cases. In addition, a new method of arch predetermination is described which shows that there is a close relation between the facial form and dental arch width.

Influenced by Angle, who considered a full complement of teeth necessary for proper harmony, balance and proportion of the mouth, many orthodontists formerly refrained from tooth extraction to accomplish orthodontic treatment.

It was Hawley who first applied Bonwill's arch predetermination method in order to determine the extent to which one might expand a contracted dental arch. Subsequently, others introduced similar methods.

Using the methods of the early authors, one may predetermine the size of a dental arch, provided a relationship exists between tooth size and the size of the dental arch. But when this relationship is altered by hereditary and other factors, the size of the predetermined arch is out of harmony with the facial form of the patient. Another shortcoming of these methods is that they fail to distinguish the patients who might benefit from tooth extraction and those who can be treated in other ways.

Although Salzmann contends that standardization of orthodontic problems is incompatible with life when growth processes are active, after the attainment of adulthood it is possible to establish some

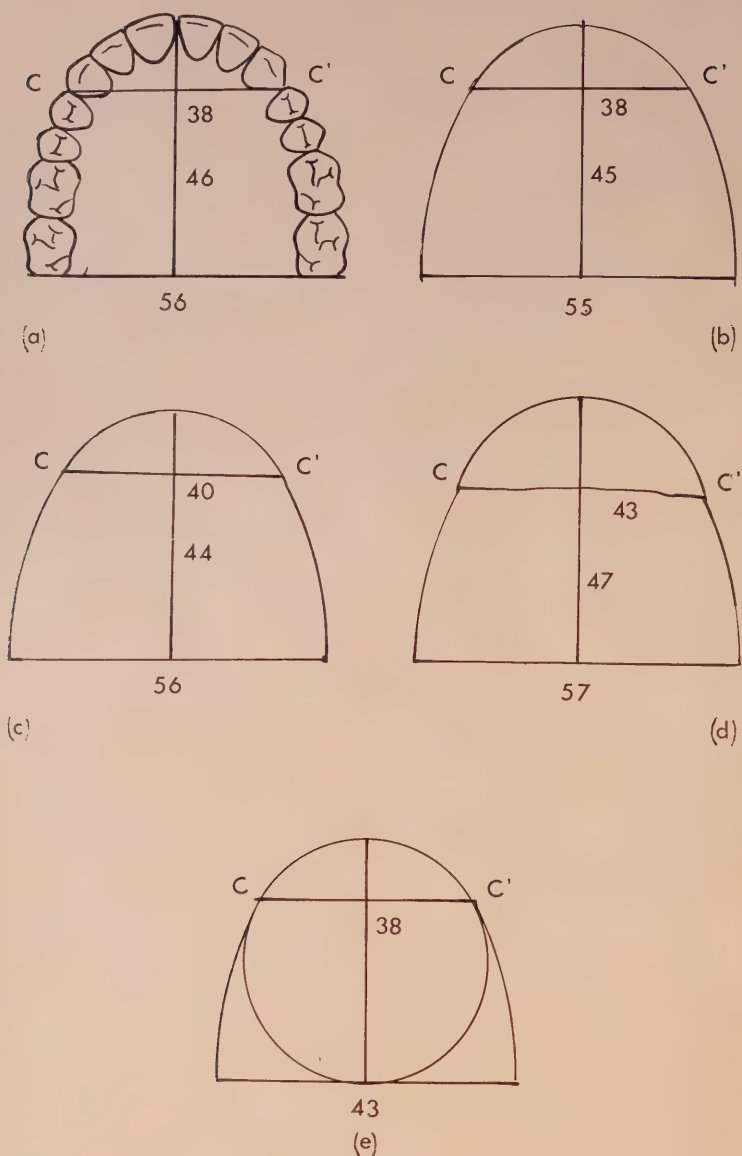


FIGURE 7 (a) A normal dental arch. (b) Diagram of the same arch drawn by using its C-C' distance. (c) Dental arch of the same patient drawn according to the author's method. (d) The same dental arch drawn according to the two rules of Izard. (e) The same dental arch drawn according to Benagiano's method. Tooth size is the essential element of this method.



sort of criterion to help the orthodontist with case analysis and treatment planning.

The various methods used for predetermination of the dental arch are accordingly described.

The new method introduced by the author is based on measurements made directly on the face of the patient. The most prominent points on the vestibular surfaces of the maxillary cuspids are determined. By using the distance between these points and applying certain geometric procedures an individual dental arch diagram is drawn. This diagram is appropriate to the facial pattern of the patient and may be used to assist in the identification of extraction and nonextraction cases.

#### RÉSUMÉ

*Cet article se propose de montrer que la détermination à l'avance de l'arcade dentaire constitue une phase importante dans le diagnostic en orthodontie pour des cas où il s'agit d'extraction ou non. De plus, l'auteur, en se basant sur les rapports qui existent entre certaines dimensions de la figure et les dimensions de l'arcade dentaire, décrit une nouvelle méthode pour calculer la largeur que prendra cette arche.*

*Plusieurs orthodontistes, influencés par Angle, qui croyaient que l'harmonie, l'équilibre et la proportion de la bouche exigent la présence de toutes les dents, se gardaient bien d'éliminer les dents pour leurs traitements.*

*Hawley, le premier, mit en pratique la technique de Bonwill pour prédéterminer l'arcade dentaire, de façon à fixer le degré d'expansion à donner à une arcade dentaire contractée. Plus tard, d'autres ont proposé des méthodes semblables.*

*On peut déterminer à l'avance, en se servant de techniques préconisées dans le passé, la dimension de l'arcade dentaire, à condition qu'il y ait un rapport entre le*

*volume des dents et la dimension de l'arcade. Mais quand l'hérédité et d'autres facteurs ont faussé ce rapport, la grandeur de l'arcade prédéterminée à l'avance n'est plus en harmonie avec la forme de la figure du patient. Ces méthodes ont aussi l'inconvénient de ne pas distinguer les patients qui bénéficieraient d'extractions de ceux qui pourraient être traités d'une autre façon.*

*L'auteur décrit les diverses méthodes pour déterminer à l'avance l'arcade dentaire.*

*Sa nouvelle méthode s'appuie sur des mesures prises directement sur la figure du patient. Il établit les points les plus saillants de la surface buccale des canines supérieures; il dessine, à l'aide de données géométriques, un diagramme de l'arcade du patient, en calculant la distance entre ces deux points. Ce diagramme a une forme qui convient le plus à la forme du visage du patient et en même temps peut servir à déterminer si le cas exige une extraction ou non.*

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Dishekimligi Okulu

## **Pigmentation of teeth treated with stannous fluoride and its association with caries incidence and oral hygiene**

*E. J. Hyde,\* D.D.S., M.S.D., Vancouver, British Columbia and  
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One of the advantages of topically applied stannous fluoride is its action on the already carious tooth. This action can result in the arrestment of dental caries in a significant number of cases when a treatment routine with stannous fluoride is maintained. Muhler<sup>1</sup> recently demonstrated this effect by a comparison of two comparable groups of children. One group received a single half-yearly topical application of stannous fluoride and used, in addition, a stannous fluoride-calcium pyrophosphate containing dentifrice. The control group received no stannous fluoride as treatments or dentifrice. Two and a half times as many incipient carious lesions increased in size in the control group after three years as in the experimental group. A prominent clinical manifestation of the phenomenon of caries-arrestment is the discoloration of enamel lesions subsequent to treatment with stannous fluoride. Several investigators<sup>2-4</sup> have been concerned about the staining or discolouring of teeth by the action of stannous fluoride. However, Muhler<sup>5</sup> maintains that a specific type of pigmentation which occurs following the use of stannous fluoride can be related to the arrestment of caries.

Many factors can account for the numerous kinds of tooth discoloration. Some,

but not all of these, are associated with the inhibition of caries. Discoloration of teeth can originate from conditions within the pulp, arising either locally or systemically, in which cases it is referred to as intrinsic pigmentation. Discoloration can also be caused by extrinsic factors, from colouring agents introduced into the mouth, poor oral hygiene, or from a modification of salivary function. Typical staining of the teeth is differentiated from pigmentation in that stains can be readily removed or disappear with improved oral hygiene.

Pigmentation, on the other hand, is considered as being associated with a change in the composition of tooth substance and, as such, cannot be removed without involving the structure of the pigmented area. In teeth with areas of pigmented demineralized enamel, the pigments are believed to alter the chemical structure of these areas, making them more resistant to caries-inducing local factors. Although there seems to be no agreement about the mechanism of the pigmentation of caries, it has been observed that increased pigmentation of a carious lesion is usually associated with a retardation or arrestment in the progress of the active lesion.<sup>6-9</sup> Furthermore, pigmented areas of enamel have been shown to be highly resistant to demineralization.<sup>10,11</sup>

In a previous study,<sup>12</sup> in which stannous fluoride was applied to the teeth of children and adults, the occurrence of pigmentation, and factors affecting its occurrence, were demonstrated. This study was undertaken in order to assess the

Based on a thesis, submitted to the Faculty of the Graduate School of Dentistry, Indiana University, in partial fulfillment of the requirements for the degree, Master of Science in Dentistry.

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total pigmentation of teeth following topical stannous fluoride treatments plus the use of a stannous fluoride dentifrice during a prolonged period of time. The present study was designed to estimate the amount of tooth pigmentation, its location on the teeth, its colour, and whether or not pigmentation is a function of the caries experience and oral hygiene.

#### MATERIALS AND METHODS

The subjects used in this investigation were selected at random from a three-way dental caries test conducted throughout a three-year period by Muhler.<sup>13</sup> A total of 751 children, aged 6 to 15 years, all of whom resided in Bloomington, Indiana was included in this study. Each child was given a thorough clinical and radiographic examination, and assigned to one of three groups according to his past dental caries susceptibility by methods described in a former study.<sup>14</sup>

Group 1 used a non-stannous fluoride control dentifrice, and, in addition, received a topical application of distilled water each six months. Group 2 similarly received a topical application of distilled water each six months and, in addition, used a stannous fluoride-containing dentifrice.\* Group 3 received a topical application of an 8 per cent aqueous solution of stannous fluoride each six months and, in addition, used the stannous fluoride dentifrice. As previously reported,<sup>13</sup> the caries-increment of Group 3 when measured by the DMFS index was 63 per cent less than in Group 1. The subjects of Group 3 comprised the sample for this study.

Group 3 was comprised of a total of 259 subjects at the initial examination three years previously. From this group, one hundred and five subjects were available for re-examination for use in this study. Each subject was examined with a mouth mirror and explorer, and the caries ex-

perience, oral hygiene, and the rate of pigmentation determined.

The caries experience of each subject was evaluated both by the DMFT and DMFS indices, following a thorough prophylaxis and bitewing radiographic examination. Examination findings were recorded, surface by surface, on special charts by the same examiner throughout the entire study.

Oral hygiene was estimated by examining the entire mouth with the aid of good artificial light, dental explorers, mouth mirrors, and by assigning the following arbitrary values to the state of oral hygiene: "very good" was given the value of 4; "good" was given the value of 3; "fair" was given the value of 2; "poor" was given the value of 1; and "very poor" was given the value of 0. In order to make these estimates of oral hygiene more meaningful, the sum of all the values (made at 6-month treatment intervals throughout the three-year study period) was included, and the average for each computed. In assigning a figure for oral hygiene, the examiner had been taught to consider the overall aspects of the oral health of the mouth, i.e., the colour, amount and location of the materia alba, the presence, severity and location of salivary calculus, and the presence and severity or absence of gingival inflammation.

The amount and type of pigmentation were estimated for each subject by examining each tooth with the aid of good artificial light and recording the findings on individual charts especially designed for this purpose. Enamel defects which were observed to have discoloration that could not be readily removed with a scaler were considered to be pigmented. Light brown, dark brown, and black pigmentation was differentiated and recorded. Areas of pigmentation observed on any tooth surface were drawn by pen onto the corresponding surface of an anatomical diagram. Care was taken to reproduce as accurately as possible, by drawing with pens, the areas of pigmented enamel on the appropriate position on the diagram.

\*Crest dentifrice, Procter and Gamble Co.



TABLE 1 Age and sex distribution of subjects.

| Age in years | Male | Female | Total |
|--------------|------|--------|-------|
| 9            | 1    | 1      | 2     |
| 10           | 1    | 6      | 7     |
| 11           | 6    | 5      | 11    |
| 12           | 8    | 5      | 13    |
| 13           | 11   | 10     | 21    |
| 14           | 5    | 10     | 15    |
| 15           | 6    | 16     | 22    |
| 16           | 3    | 3      | 6     |
| 17           | 2    | 1      | 3     |
| 18           | 1    | 3      | 4     |
| 19           | —    | 1      | 1     |
| Total        | 44   | 61     | 105   |

The three different colour intensities of pigmentation were differentiated by using three colours of ink.

The pigmentation rate of the teeth of the subjects was estimated by calculating the percentage of teeth affected by pigmentation. This calculation was made by dividing the number of pigmented teeth (the numerators) by the product of the total number of teeth times the number of subjects (the denominator) and multiplying by 100. For example, if 10 subjects, each with a full complement of teeth (28), were found to have a total of 30 teeth affected by pigmentation, the pigmentation rate per tooth would be 10.7 per cent. The pigmentation rate per surface was estimated in the same manner except that in this

TABLE 2 Average DMF teeth and surfaces of subjects.

|                          |      |
|--------------------------|------|
| Average DMFT per subject | 7.2  |
| Average DMFS per subject | 11.3 |
| Total number of subjects | 105  |

calculation, the total number of pigmented surfaces was divided by the total number of tooth surfaces present. The number of tooth surfaces for each anterior tooth was considered to be 4, and for each posterior tooth, 5 surfaces. Pigmentation of an interproximal surface was counted when it extended onto the labial or lingual surface of an anterior tooth or onto the buccal, lingual or occlusal surface of a bicuspid or molar.

#### DISCUSSION OF DATA

The age and sex distribution of the subjects used in this study is shown in Table 1, and the average DMF tooth and surface indices for these subjects are shown in Table 2.

The relationship between the number of DMF surfaces and the incidence of pigmented tooth surfaces is shown in Table 3. The number of pigmented surfaces increases with the number of DMF surfaces, as does the pigmentation rate

TABLE 3 The incidence of pigmentation of the teeth of children after three years of stannous fluoride treatment, in relation to their DMF surfaces as evidenced by their pigmentation rate per tooth.

| DMFS        | No. of subjects | Total permanent teeth | No. of pigmented teeth | Pigmentation rate per tooth (%) |
|-------------|-----------------|-----------------------|------------------------|---------------------------------|
| 0 to 5      | 39              | 870                   | 153                    | 17.6                            |
| 6 to 10     | 19              | 449                   | 118                    | 26.3                            |
| 11 to 15    | 20              | 504                   | 153                    | 30.4                            |
| 16 to 20    | 12              | 308                   | 107                    | 34.7                            |
| 21 and over | 15              | 373                   | 165                    | 44.2                            |
| Total       | 105             | 2,504                 | 696                    | 27.8                            |

TABLE 4 The incidence of dark brown and black pigmentation of the teeth of children after three years of stannous fluoride treatment, in relation to their DMF surfaces as evidenced by their pigmentation rate per surface.

| DMFS        | No. of subjects | Total permanent teeth | Total tooth surfaces | No. of tooth surfaces with dark brown and black pigmentation | Dark brown and black pigmentation rate per surface (%) |
|-------------|-----------------|-----------------------|----------------------|--------------------------------------------------------------|--------------------------------------------------------|
| 0 to 5      | 39              | 870                   | 3,929                | 53                                                           | 1.3                                                    |
| 6 to 10     | 19              | 449                   | 2,029                | 53                                                           | 2.6                                                    |
| 11 to 15    | 20              | 504                   | 2,290                | 79                                                           | 3.3                                                    |
| 16 to 20    | 12              | 308                   | 1,385                | 81                                                           | 5.8                                                    |
| 21 and over | 15              | 373                   | 1,685                | 95                                                           | 5.6                                                    |
| Total       | 105             | 2,504                 | 11,318               | 361                                                          | 3.2                                                    |

TABLE 5 The relationship of oral hygiene to the incidence of pigmentation of the teeth of children after three years of stannous fluoride treatment.

| Oral hygiene rating | No. of subjects | Total permanent teeth | No. of pigmented teeth | No. of pigmented surfaces |            |             |       | Pigmentation rate per tooth (%) |
|---------------------|-----------------|-----------------------|------------------------|---------------------------|------------|-------------|-------|---------------------------------|
|                     |                 |                       |                        | Black                     | Dark brown | Light brown | Total |                                 |
| 0 to 0.5            |                 |                       |                        |                           |            |             |       |                                 |
| 0.6 to 1.0          |                 |                       |                        |                           |            |             |       |                                 |
| 1.1 to 1.5          | 2               | 50                    | 34                     | 3                         | 16         | 18          | 37    | 68.0                            |
| 1.6 to 2.0          | 15              | 375                   | 140                    | 22                        | 73         | 76          | 171   | 37.3                            |
| 2.1 to 2.5          | 23              | 548                   | 200                    | 31                        | 74         | 111         | 216   | 36.5                            |
| 2.6 to 3.0          | 58              | 1,367                 | 286                    | 26                        | 101        | 203         | 330   | 20.9                            |
| 3.1 to 3.5          | 7               | 164                   | 36                     | None                      | 15         | 25          | 40    | 21.9                            |
| 3.6 to 4.0          |                 |                       |                        |                           |            |             |       |                                 |
| Total               | 105             | 2,504                 | 696                    | 82                        | 279        | 433         | 794   | 27.8                            |

TABLE 6 The incidence of black pigmentation on the surfaces of teeth in relation to the oral hygiene of 105 children after three years of stannous fluoride treatment.

| Oral hygiene rating | No. of subjects | Total permanent teeth | Total tooth surfaces | No. of surfaces with black pigmentation | Black pigmentation rate per surface (%) |
|---------------------|-----------------|-----------------------|----------------------|-----------------------------------------|-----------------------------------------|
| Less than 2         | 7               | 170                   | 771                  | 11                                      | 1.43                                    |
| 2 to 2.4            | 30              | 750                   | 3,403                | 45                                      | 1.32                                    |
| 2.5 to 2.9          | 28              | 627                   | 2,829                | 17                                      | 0.60                                    |
| 3 and over          | 40              | 975                   | 4,315                | 9                                       | 0.21                                    |
| Total               | 105             | 2,504                 | 11,318               | 82                                      | 0.72                                    |

per tooth. The amount of total pigmentation per tooth shows a pronounced rise when the DMFS index is greater than 5. After the DMFS index reaches a value of 10, the amount of pigmentation increases at a fairly regular rate. The occurrence of dark brown and black pigmentation gave a somewhat clearer picture of the rate of pigmentation in relation to the caries experience. Accordingly, Table 4 reveals the amount of dark brown and black pigmentation per tooth and per surface in relation to the DMFS index. This table demonstrates a pronounced rise in the amount of pigmentation per tooth when the DMFS index reaches 6, and an even greater increase when the DMFS index reaches 16. The amount of pigmentation per surface shows a more regular rise with increased caries experience.

The number of pigmented tooth surfaces in relation to oral hygiene is shown in Table 5. There is a low incidence of pigmentation per tooth in subjects with good oral hygiene. The amount of pigmentation, as shown by the number of affected tooth surfaces, becomes pronounced as the oral hygiene is neglected. Because the majority of the subjects had an oral hygiene rating which was confined to the same range, the values of the few subjects with higher or lower ratings than average cannot be considered significant. However, the occurrence of most of the black pigmented surfaces is seen to be associated with poor oral hygiene. This was particularly evident on the buccal and labial surfaces.

Table 6 shows the incidence of black pigmentation in relation to the oral hygiene. Of the 105 subjects examined, 40 had "good" or better oral hygiene and were given an oral hygiene rating of 3 or over; the incidence of black pigmentation is seen to be very low among the individuals in this category. On the teeth of these 40 subjects, there was a total of only 9 tooth surfaces with black pigmentation. On the other hand, the amount of black pigmentation rises sharply as the oral hygiene rating decreases. Black

pigmentation of tooth surfaces, therefore, tends to predominate in subjects who do not have good oral hygiene, a fact previously mentioned and which was deduced by other methods.<sup>12</sup>

The distribution of pigmentation as it occurs on the various teeth and tooth surfaces is shown in Tables 7 and 8. The molars were the most repeatedly affected teeth and accounted for almost one-half of the total number of pigmented surfaces found in the mouth. The pigmentation rate of the molars was estimated at 59.6 per cent. This unexpectedly high figure may be explained on the basis that pigmentation in the pits and fissures of the molars and bicuspid presented the greatest difficulty in accurate diagnosis. Deep pits and fissures, which are frequently discoloured, often made it impossible to differentiate between pigmentation and extrinsic stain. All such discolouration, usually light brown, was rated as pigmentation in this study. It is seen in Table 5 that of the total 794 pigmented tooth surfaces found in the 105 subjects examined, 433 or 54.5 per cent were classified as light brown pigmentation. Table 8 shows that of the 510 pigmented surfaces found in the combined totals of the molar and bicuspid teeth, 347 were found to be on the occlusal surfaces. Furthermore, 220 of these 347 pigmented occlusal surfaces, or 63.4 per cent, were rated as light brown pigmentation. The distribution of light brown pigmentation was, therefore, much greater in these surfaces than in the enamel faults of the other tooth surfaces, and accounted for a large proportion of the appraised pigmentation.

The labial surfaces of the anterior teeth (central and lateral incisors and cuspids) were the next most frequently pigmented surfaces. Pigmentation of a mesial or distal surface of these teeth was assessed when it extended onto the labial or lingual surface. Pigmentation approximating the margins of restorations was also included. Discolouration of deep lingual pits of the anterior teeth, especially the maxillary lateral incisors, often presented the same difficulty of differ-



TABLE 7 Pigmentation as it occurs on the teeth of 105 children after three years treatment with stannous fluoride.

| Teeth          | Total permanent teeth | Total tooth surfaces | No. of pigmented teeth | No. of pigmented surfaces | Pigmentation rate per tooth (%) | Pigmentation rate per surface (%) |
|----------------|-----------------------|----------------------|------------------------|---------------------------|---------------------------------|-----------------------------------|
| Anterior teeth | 1,202                 | 4,808                | 243                    | 284                       | 20.3                            | 5.9                               |
| Bicuspid       | 723                   | 3,615                | 108                    | 126                       | 14.8                            | 3.5                               |
| Molars         | 579                   | 2,895                | 345                    | 384                       | 59.6                            | 13.3                              |
| Total          | 2,504                 | 11,318               | 696                    | 794                       | 27.8                            | 7.0                               |

entiation between pigmentation and extrinsic stain as did the pits and fissures of the molars and bicuspid. Pigmented enamel lesions of the buccal surfaces of the bicuspid appeared similar to most of the pigmented areas of the labial surfaces of the anterior teeth.

#### SUMMARY AND CONCLUSIONS

Pigmentation of teeth was investigated in a group of 105 children, aged 9 to 19 years. The subjects of this group had been given one application of an 8 per cent aqueous solution of stannous fluoride each 6 months throughout a three-year period and, in addition, had been using a stannous fluoride dentifrice.

Three shades of pigmentation were differentiated on the surfaces of the teeth of subjects. Light brown pigmentation

accounted for more than one-half the total number of pigmented surfaces.

The amount of pigmentation and the per cent with poorer oral hygiene status was greater in subjects with a high caries experience. It was noted that the occurrence of pigmentation was especially associated with caries experience as measured by either the DMFT or DMFS indices. But with an age span of ten years in the study group, the first explanation is that this is due to a mutual correlation of age.

Poor oral hygiene was also found to be related to increased pigmentation. Black pigmentation, in particular, was observed to be more evident in subjects with a poor oral hygiene rating.

The surfaces most repeatedly affected by pigmentation were the occlusal surfaces of the posterior teeth. The labial surfaces of the anterior teeth were the next most frequently pigmented.

TABLE 8 The distribution of pigmentation as it occurs on the different surfaces of the teeth of 105 children who had three years stannous fluoride treatment.

| Teeth           | Total permanent teeth | Labial or buccal pigmentation | Lingual pigmentation | Combined mesial and distal pigmentation | Occlusal pigmentation |
|-----------------|-----------------------|-------------------------------|----------------------|-----------------------------------------|-----------------------|
| Anterior teeth  | 1,202                 | 168                           | 71                   | 47                                      | —                     |
| Posterior teeth | 1,302                 | 93                            | 44                   | 26                                      | 347                   |
| Total           | 2,504                 | 261                           | 115                  | 73                                      | 347                   |

## RÉSUMÉ

Le fluor stanneux a une action sur les dents déjà cariées: c'est là un de ses avantages. Aussi la carie, dans un grand nombre de cas, est arrêtée, quand le traitement de routine à l'aide du fluor d'étain est maintenu.

Une manifestation clinique de ce phénomène d'arrêt de la carie consiste dans la décoloration des lésions de l'émail, après le traitement au fluor. Plusieurs chercheurs se sont préoccupés de cette coloration des dents par le fluor stanneux. Cependant, Mulher soutient que le type particulier de pigmentation qui se produit après l'application de fluor d'étain s'identifie avec l'arrêt de la carie.

On a étudié la pigmentation des dents chez 105 enfants, de 9 à 19 ans. Tous avaient eu une application d'une solution aqueuse de fluorure d'étain à 8 pour cent, tous les six mois, durant trois ans, et, de plus, avaient utilisé un dentifrice à base de fluor d'étain.

On a remarqué trois teintes différentes de pigmentation dans les dents de ces jeunes personnes. Plus de la moitié des taches à la surface des dents étaient de couleur brun pâle.

Le degré de la coloration était plus prononcé chez les enfants dont l'hygiène buccale était pauvre et qui souffraient davantage de carie. L'apparence de taches brunes et noires se notait surtout dans les dents cariées décelées par l'index DMFT ou l'index DMFS. On explique ce phénomène surtout par la grande différence d'âge (10 ans) des enfants soumis à ce

test. On a constaté aussi que cette pigmentation était plus considérable chez les sujets ayant une mauvaise hygiène. Les taches noires, surtout, apparaissaient chez ceux dont les dents étaient malpropres.

Les surfaces occlusales des dents postérieures étaient le plus souvent atteintes; ensuite, les surfaces labiales des dents antérieures.

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## case reports

### Metastatic carcinoma of the mandible

I. B. Rosen,\* M.D., F.R.C.S. [C]., Toronto, Ontario

It is the purpose of this paper to present not another exotic case report but an illustration of the point that malignancies in the head and neck area frequently pose as dental problems. The dentist, who is mentally prepared to accept the possibility of this occurrence (admittedly uncommon), will recognize these conditions in his own practice and thus directly influence the life expectancy of the affected patient. Early diagnosis reflected in early treatment results in excellent survival rates.

#### CASE REPORT

*History and Examination.*—Mrs. E. W., 74 years old, was admitted to the New Mount Sinai Hospital, Toronto in December 1961.

Two and a half months before she saw her own dentist because of a toothache. Three lower teeth were extracted. Despite frequent postoperative visits her symptoms persisted. Finally, distraught with pain, she consulted an oral surgeon, who at this time was suspicious of a mandibular malignancy. Dental radiographs were negative and her hospital admission was subsequently arranged.

In the hospital, the patient appeared emaciated, chronically ill and in obvious distress. There was a hard, tender mass, three inches in diameter, arising from the left horizontal ramus of the mandible invading both oral

mucosa and overlying skin (Figure 1). There were also signs of early heart failure.

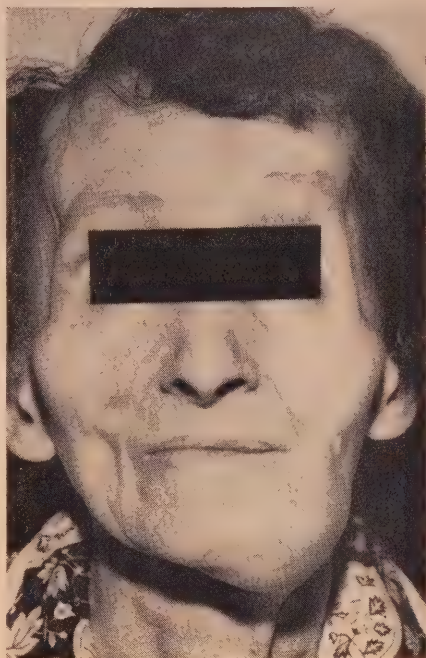


FIGURE 1

\*Attending surgeon, Head and Neck Clinic, Department of Surgery, New Mount Sinai Hospital, Toronto.





FIGURE 2 Radiograph showing localized area of bone destruction extending through the inferior cortex of mandible.

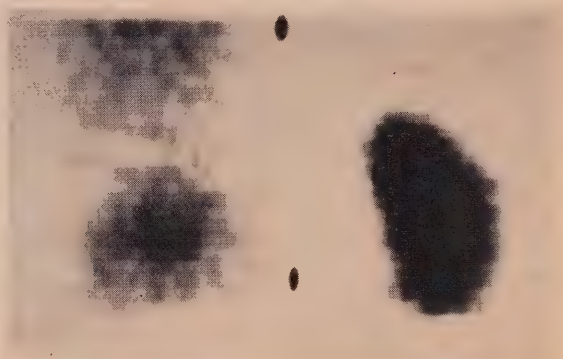


FIGURE 3 Special radioactive scan showing defective uptake by the right kidney as compared to the left. (Courtesy of Dr. J. Simpson, Princess Margaret Hospital, Toronto.)

Radiographic examination revealed an osteolytic lesion of the left horizontal ramus perforating the inferior cortex (Figure 2). Radiographs of her skeleton, gastro-intestinal tract and kidneys were normal.

Endoral aspiration biopsy produced 'necrotic tissue shown to be malignant histologically, although an exact tissue diagnosis could not be made.

Laboratory studies showed a secondary anemia (69 per cent) and an elevated alkaline phosphatase (19.4 K.A. units).

*Hospital Course.*—In view of this woman's clinical state of cachexia, it was felt that we were dealing with metastatic malignancy, al-

though our investigation revealed no primary site. Palliative mandibulectomy was briefly considered but dismissed in view of this woman's rapid deterioration. She was transferred to the Princess Margaret Hospital, Toronto where a course of radiation therapy was administered to the mandibular tumour without effect. A special radioactive scan of her kidneys showed impaired uptake by the right kidney indicative of renal carcinoma (Figure 3).<sup>1</sup>

This patient died on January 24, 1962. Permission for autopsy was not obtained. She died, presumably, of renal carcinoma with metastasis to her mandible.

## DISCUSSION

Metastatic carcinoma of the mandible is rare, having been recorded in the literature about 220 times.<sup>2</sup> The favoured primary sites are breast, thyroid, kidney, lung, prostate gland, and lip. The symptomatology of these lesions, i.e. gingival swelling, toothache, loosening of teeth, and inferior alveolar nerve involvement, is much the same as for primary tumours of the oral mucosa, mandible or maxilla. Our particular patient points up the necessity of thinking of extradental causes for persistent jaw pain and the value of full radiography of the mandible. Even in this patient, who had a hopeless prognosis, earlier diagnosis might have permitted more effective palliation.

The earlier dental radiographs taken by the oral surgeon unfortunately are not available for comparison with the later

series taken at the hospital. The dental radiographs were, however, negative. This points up the fact that in mandibular lesions dental radiographs may be of limited value.

## SUMMARY

A case of presumptive metastatic carcinoma of the mandible presenting with "toothache" has been presented and discussed.

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## The responsibilities of a young graduate

A. C. Lewis,\* D.Paed., Willowdale, Ontario

You of the graduating class of 1963 have now reached a milestone in your career which is marked by this special event. It is, or should be, a proud night not only for you but also for the members of your faculty and of your families whose highest hopes are that you will make a success of your life. What the future of society will prove to be depends upon all of us, but more upon you who are about to take over the affairs of community and state. Yet in the swiftly moving events of today it may be that you will not have a chance. It may prove to be much later than we think. Those now in control may hold our fate in their hands. A Mr. K. may push the wrong button. Ignorance of each other's ways and lives has been a common cause, throughout the history of mankind, of that suspicion and mistrust among the peoples of the world through which their differences have all too often exploded into war. As it is in the minds of men that war arises, so it is from the minds of men that suspicion — the cause of war — must be removed, and replaced by confidence, faith and trust. Every citizen must play his part in demonstrating that sincerity, integrity

and altruism are principles high on the Canadian scale of standards, so that other peoples will come to understand that this is the Canadian way of life by which our country will stand or fall.

Two world wars have resulted from this tragic lack of communication between peoples; and monuments to the fallen have been set up here and there throughout the world. The Soldiers' Tower on this campus is one of the most striking of these. A magnificent and stately monument to the fallen has been erected in Ottawa. Now I am told that there are plans afoot for a second in our national capital to be unveiled on Confederation Day in 1967. As an old soldier I can only express my strong conviction that this will be a monument to the gross stupidity of our so-called civilized society. The money would be much more wisely unveiled for university bursaries for needy students.

How are we to recognize our duties and obligations? An eminent English jurist, Lord Moulton, claims there are three divisions of human action. The first is the division of positive law which must be obeyed by all citizens. The second is the division of free choice which means just that. It includes all actions which are undertaken with complete freedom. The third division falls between these two in which there is no law to determine the course of action. This pertains largely

Excerpts from an address delivered March 29, 1963 to the graduating class, Faculty of Dentistry, University of Toronto.

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to the field of good manners, and concerns itself with many of the finer points which cannot be written into rules. There is no law to prevent one from hurrying ahead of others to board the plane first in order to get the best choice of seats. Yet there is something within a person, perhaps conscience, to exercise a control over one's actions. Obligations in the third division comprise the unwritten rules of the game. Upon the honest pursuit of this third division by individuals and nations will depend the future of society, and whether we shall ever attain the goal of living together in peace and accord.

The Governor-General of Canada in addressing a Canadian welfare conference a year ago said "As our society grows ever more and more personal, the need for voluntary work becomes daily greater, for it is essential that there be preserved a balance between complexity and conscience." One needs only to remember that the voluntary contribution made by individuals and groups is the real foundation of democratic society, where interests and purposes are common to all.

And this brings me to the responsibilities of the university graduate to the community in which he locates. If the democratic society is to prevail there must be leaders and followers, chiefs and Indians, so to speak, all willing to work. The university graduate is in a better position to be a chief because of his exposure for four or five years to an academic community with its infinitely various influences of comradeship, inspiration and dedication. The reason for working with others is not of greatest importance. The Talmudic principle, "a man should perform a righteous deed, even if he does so only for ulterior motives, because he will thus learn to do the right thing for its own sake," may well be applied as one endeavours to establish a pattern of life. There is no better way to take one out of oneself and away from the narrowing effect of worries which threaten to submerge one, or to counteract the poison of political and world crises

in our confused society, than by engaging in thoughtful work with and for others. If a person wishes to develop into a fully participating human being it can be accomplished by locating a social need and offering the help that is in his power to give.

Our richest experiences come when we are acting with other people to achieve some common worthwhile goal — for example, helping in the Varsity Fund Project through the telephone approach to it. The Biblical instruction to the unhappy rich man, "Sell whatever thou hast and give to the poor," was not directed toward the welfare of the poor but to the soul of the young man.

One important feature about volunteering for a service is the sense it gives of controlling one's own destiny. The action is something one chooses to do as a gesture of free will, as one's contribution to society. These are not easy tasks. The standard of work to be done is higher than that demanded in a previous generation but it is well worth the effort to help achieve it. The efforts of your own profession to contribute funds towards dental research is an example of what I mean. In this category of altruistic service fall the hundreds of things which are right but which cannot be legislated for; things that will never be done unless someone is prepared to volunteer to do them.

You are fortunate to have attended university at a time when the peak of enrolment has not yet been reached. When overcrowding occurs, as will surely happen in Ontario by 1970, it will be more difficult to get the best from courses. Quality and quantity are inherently antagonistic in education. The abnormal increase in numbers means almost inevitably a corresponding decrease in quality of work achieved. It is a fine thing to extend educational privilege; but the first loyalty of a university must be the maintenance of standards—standards of scholarship, of maturity and of character; and the last of these is not the least.

295 Dunforest Ave.

## Summer employment for dental students

The growing demand for dental services in rural areas is beginning to arouse a good deal of concern among dentists. Strenuous efforts have been made of recent years to remedy this situation. They include the provision of incentives to attract young dentists to smaller communities, periodic visits by city practitioners to rural areas, and the recruitment of students from areas that lie outside our larger cities.

There is another possible avenue which seems to have escaped attention so far. It is based on employing senior dental students in rural public health assignments during their summer vacation.

At present most dental students are compelled to accept whatever summer jobs happen to be available. As a rule their skills and talents remain unused and they receive precious little to challenge the intellect or stir the imagination. Surely this is a time when students could be exposed with advantage to the social aspects of dentistry which find so little time during their formal curriculum.

Of interest in this connection are the summer externships for dental students in the State of Michigan. There, interpretation of the state dental practice act permits the employment of third-year dental students and first-year student hygienists to give topical fluoride treatments under the general supervision of

the Dental Section of the Michigan Department of Health. For more than 12 years such students have helped to provide teaching and demonstration services as well as topical fluoride treatments in local communities of the state during the summer vacation months. These programs are based on local initiative. Planning and organization in each community are the responsibility of a local committee composed of representatives of local dentists, the local health department, school boards, home and school groups, and other local organizations. The state health department assists with the provision of portable equipment and procures and assumes general supervision of the student personnel. A local dentist is responsible for local supervision. The average student works nine or ten weeks and can comfortably see 500 or 600 children in that time. Small fees are collected from parents who are able to pay for fluoride treatments. These make the programs virtually self-supporting.<sup>1</sup>

Michigan's summer dental externships are an excellent means of achieving community organization and co-operation. To the students they provide orientation in public health and an opportunity to learn about dental conditions of children in communities, in contrast to the select group usually seen in private practice. To the public they provide evidence of the profession's concern for the availabil-

ity of services. And to all concerned these programs provide the rewarding experience of community action as an approach to the solution of a problem. In view of these facts it would certainly pay to explore the possibility of initiating similar programs in this country. Summer public health externships in rural areas could mean several things. Students could be gainfully employed in meaningful work. Through field experience social and public health dentistry would be transformed from an abstract exercise into a

stimulating challenge. Rural communities and rural dentists would reap the benefits of a service that might not be otherwise provided. And, above all, some students might be expected to develop an attachment to the community in which they work, an attachment that might well induce them to return after graduation.

#### REFERENCE

1. Wertheimer, Fred. Michigan's summer topical fluoride program. *Am. J. Pub. Health* 44:484, 1954.

## Help wanted?

In these distressing times of international tension and domestic uncertainty it is particularly refreshing to find the occasional light-hearted item in unexpected places. For who could ignore such an unforgettable little gem as this which recently appeared in one of our suburban weeklies:

"GIRL FRIDAY—five days a week—maybe the odd Saturday—but never on Sunday. Must be experienced stenographer who can turn out correspondence and technical quotations neatly, efficiently and rapidly with one hand while answering the telephone with the other, making palatable coffee, acting as receptionist and placating temperamental employer on the side. All this while operat-

ing a dictating machine and IBM electric typewriter. Shorthand and ability to translate German desirable. Pleasant personality while under pressure from several demanding bosses who inhabit this small office in D-M-. This is indeed a challenge to a capable girl (or woman) with steady nerves, who needn't be beautiful, but should be neat and trim, who doesn't know when she is well off. Telephone—."

It would have come as no surprise if the principals had turned out to be the enterprising partners of a group practice. On the other hand, who can resist the nagging thought that such a bright pearl might have been conceived among the oyster shells piled high on an editor's desk.

*C.D.A. Library* • The Library of the Canadian Dental Association contains a very large selection of dental and medical books, periodicals and other publications available for circulation to members of the Association anywhere in Canada. Donations to the Library Trust Fund qualify for income tax deduction.



### **Baird, MacLean, Brett and Bruce named to Board of Governors**

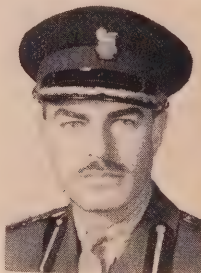
Four new representatives have recently been named to the Board of Governors of the Canadian Dental Association. Two of them attended the annual meeting in May for the first time as voting members. Two others were named after the meeting.

Since the annual meeting, the Federal Dental Services' representative has been se-

lected. Brigadier K. M. Baird is the first representative of the group. Authorization for this additional member of the Board of Governors was granted at the 1963 meeting. Brigadier Baird will represent, for a three-year term, dentists employed by the three federal departments: Defence, National Health and Welfare, and Veterans' Affairs.

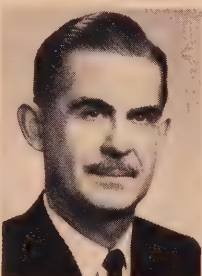
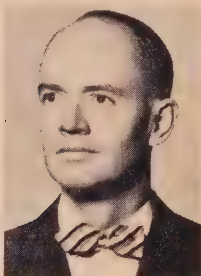
Brig. K. M. Baird. (l.)

H. R. MacLean (r.)



R. O. Brett (l.)

W. G. Bruce (r.)



Brigadier Baird is Director General of Dental Services for the Canadian Forces with headquarters in Ottawa.

H. R. MacLean has been named to represent the Alberta Dental Association as a member of the C.D.A. Board of Governors. He is currently chairman of the Auxiliary Services Committee of the Canadian Dental Association. Dr. MacLean is dean of the dental faculty at the University of Alberta, Edmonton. Appointment of a new Alberta representative became necessary through the election of James Zimmerman, the Alberta representative since 1955, as Association President.

At the 1963 meeting R. O. Brett of Regina replaced A. D. Leask as representative of the Saskatchewan College of Dental Surgeons. W. G. Bruce of Kincardine, president of the Royal College of Dental Surgeons of Ontario, succeeded M. V. J. Keenan as one of the five representatives from Ontario.

Each of the ten corporate members of the Canadian Dental Association is entitled to name, by whatever means it chooses, one representative to the Board of Governors. For each additional 500 (or major portion thereof) of its members (after the first 500), every corporate member may send another delegate to the Board. Thus Ontario has five representatives on the Board; Quebec has three and the other eight provinces have one representative each. Federal Dental Services have one representative, the C.D.A. president and immediate past president are also members of the Board. Current membership of the Board is listed every month on the di-

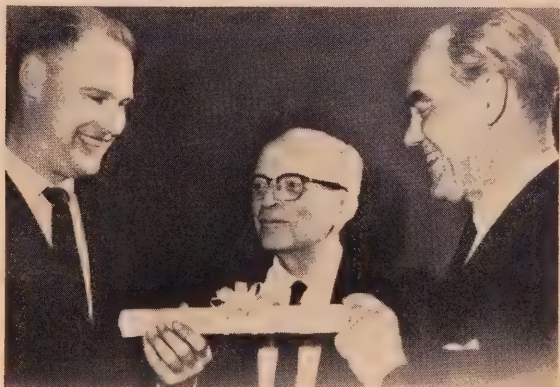
rectory page near the front of the *Journal of the Canadian Dental Association*.

## PAST PRESIDENT McINTYRE DIES

Well known across Canada and a great friend to hundreds, particularly in Alberta, R. R. McIntyre of Calgary died on May 22. Dr. McIntyre had laboured devotedly for his profession, most recently in student recruitment and as a travelling orthodontic consultant.

One of Dr. McIntyre's most recent honours was the presentation of an annual scholarship in his name to the Faculty of Dentistry at the University of Alberta by the Calgary and District Dental Society. He had served as president of that society, as president of the Alberta Dental Association, as first chairman of the Orthodontic Section of the Canadian Dental Association, and, in 1955-56, as president of the Canadian Dental Association. He was a fellow of the International College of Dentists and an honorary life member of the Western Canada Dental Society.

Just a few days before his death, Dr. McIntyre wired a characteristically cheerful message from his hospital bed to his friend, incoming C.D.A. president James Zimmerman and to the Board of Governors. It is hoped that the reply from a group whose activities he followed with great interest reached him before he slipped into a final coma. Few could match Dr. McIntyre's good humour or his deep interest and unusual accomplishments in dentistry.



The late R. R. McIntyre of Calgary (centre) was honoured earlier this year by the Calgary and District Dental Society when past president E. F. Allison (l.) presented a scholarship saluting Dr. McIntyre to Dean H. R. MacLean (r.) of the Faculty of Dentistry, University of Alberta.



Inducted as fellows of the Canadian Section, International College of Dentists at a meeting held during the national convention of the Canadian Dental Association in Toronto, May 19-22, were (l. to r., rear) R. O. Winn, Kitchener; H. R. Skilling, F. H. Shepherd and J. A. Sherman, Toronto; L. G. Yves Lafleur, St-Hyacinthe; R. T. Lamb, Montreal; E. P. Kavanagh, St. John's; (l. to r., front) R. C. Honey, Peterborough; H. L. Harris, and A. J. Harris, London; G. V. Fisk, Toronto; J. M. Darcy, St. John's; P. S. Christie and R. H. Bingham, Halifax.

#### HONORARY MEMBERSHIPS FOR H. W. REID AND A. C. LEWIS

A dentist and an educator were honoured by the Canadian Dental Association at its annual luncheon meeting in Toronto May 20. H. W. Reid of Toronto, and A. C. Lewis, former dean of the Ontario College of Education, were presented with honorary memberships in the national association. The presentation was made by past president M. V. J. Keenan.

Dr. Reid has been active for many years in Association affairs, having served as president from 1945 to 1946. He was also chairman of the Health Insurance Studies Committee (now Dental Services Committee) and a member of the Council on Education of the Canadian Dental Association. Since 1950 he has served on the dental school survey committee of the Council on Education of which Dr. Lewis is chairman. Dr. Reid, who has practised in Toronto since 1920, has held offices in local, provincial and national dental organizations. In 1949 he received a fellowship in dental surgery from the Royal College of Surgeons of England, and last year was made an honorary member of the American Dental Association.

Dr. Lewis is former dean of the Ontario College of Education. Since 1950 he has been chairman of the dental survey committee of the Canadian Dental Association's Council on Education. He has been responsible for organizing several teacher-training conferences which have been of considerable benefit to Canadian dental schools.

#### TORONTO CONVENTION ART EXHIBIT BIGGEST EVER

Three hundred and twenty-five entries from dentists, their employees and members of their families competed for various prizes in the Art, Flower, Photography and Hobby Exhibition at the national convention of the Canadian Dental Association in Toronto, making this the largest display of its kind at any Canadian dental meeting.

First-prize winners in the various categories included: Dr. E. B. Sisley and Mrs. J. Magill, drawing and painting; Dr. W. A. Crich and Mr. C. R. Bryan, photography; Dr. H. Mullett, Mrs. R. Tuckwell, and Mrs. L. R. Pattison, handicrafts; Mrs. E. Holbrook, sculpture and woodcarving; and Mrs. A. H. Leckie, flowers. Honourable mention went to Mrs. C. C. White, Miss H. Laforce, Mrs. H. Shanks, Mrs. H. W. Reid, Mrs. E. Bigelow, Miss Phyllis Smith, Dr. W. A. Crich, Dr. G. E. Sparrow, Dr. D. Woodside, Mr. F. W. Stahl-schmidt, Dr. V. Fisk, Dr. H. T. McLaughlin, Dr. J. G. Dale, Dr. F. Beaudoin, Dr. G. Pringle, Mrs. S. A. MacGregor, Dr. H. A. Mullett, Mrs. G. W. Hogan, Miss J. Bumby, Mrs. J. H. Langtry, Dr. W. W. Breslin, Dr. D. Cowan, Dr. J. D. Purves, and Mrs. R. Burgess.

Serving as exhibition judges were Toronto painter Jack Pollock, director of the Pollock Gallery; Victor Grainger, president of the Toronto Retail Florists' Association and director of the Colour Council of Canada; James Beveridge, prominent exhibitor and organizer of photographic salons; Wilmot Black-



hall, award winning exhibitor and organizer of photographic salons; and John Powell, prominent Toronto photographer. The exhibition was arranged by J. G. Dale.

## Canada and the Provinces

### MEDICAL PLAN FOR ALBERTA

Alberta's medical care plan, passed by the provincial legislature in March, went into effect July 1 and will become active October 1. The legislation enables the Minister of Health to:

"enter into agreements with Medical Services (Alberta) Incorporated or any insurance corporation whose basic program of prepaid medical services or medical services insurance has been approved by the Government and the College of Physicians and Surgeons of the Province of Alberta to make available prepaid medical services or medical services insurance with comprehensive benefits to those eligible residents who desire it and need assistance to purchase the contracts provided by that corporation and to provide a specified dollar subsidy in respect of those residents who need assistance on the condition that the cost of the prepayment premium or insurance to those residents is reduced by the amount of the subsidy,"

and to enter into agreements

"with any insurance corporation, to provide extended health benefits, exclusive of medical services, and to provide such subsidies as may be decided upon to assist those eligible residents who desire such benefits and who need financial assistance to secure them."

Government assistance will take the form of subsidizing premiums in private insurance schemes on a sliding scale, depending on income and the number of dependants. There may possibly be some form of means test.

Premier Manning of Alberta said that the government is depending upon competition between the commercial companies and the non-profit Medical Services Incorporated to keep down costs.

### MEDICAL BILL INTRODUCED IN ONTARIO

Premier Robarts of Ontario introduced a draft medical health insurance bill in the legislature on April 23. This bill did not receive final passage during the current session. The bill provides the framework upon which a committee representing interested

groups can build a plan. The committee, headed by J. G. Heagy, president of the University of Waterloo, is holding public hearings this summer.

In its present form, the bill calls for every existing plan, whether physician-sponsored or offered by private insurers, to make available a standard minimum plan for medical insurance on a level to be determined by the committee and presumably approved by the government. These plans will take two forms: in-hospital and out-of-hospital treatment. The maximum premiums for this standard coverage will be set by the government.

The plan will provide full, non-compulsory, non-cancellable medical services coverage for every resident of the province regardless of age, physical condition or financial position. The government will assume the responsibility of providing this coverage to those who are considered unable to provide it for themselves.

The standard coverage will exclude annual checkups; laboratory and diagnostic procedures in hospitals; examination for insurance, school or employment; infant care by the physician who delivered the baby; and services provided by other coverage such as company plans or workers' compensation.

The bill provides for the establishment of an association to be known as Medical Carriers Inc., to which all companies selling medical insurance in the province must belong.

### CROWN LIFE INTRODUCES DENTAL EXPENSE INSURANCE

The Crown Life Insurance Company has recently introduced a group dental expense insurance plan. The benefits specifically include the provision and repair of dentures. The replacement of dentures is covered provided it occurs after the end of the first insurance year and not within five years of the date on which the denture was provided or last repaired. Orthodontic services are not covered by the plan.

The plan has a 75-25 per cent co-insurance feature and a \$25 deductible. The per person maximum for the first year is \$200, and for the following two years \$300 and \$400. The cost of the plan is approximately \$90 per family per year, at least half of which must be paid by the employer. If the employee pays the maximum amount of premium, he must spend a total of \$70 (\$45 in premiums plus the \$25 deductible) before he can claim 75 per cent of the dental bills for any member of his family.

The company has established a limit as to how much will be paid for each pro-

cedure which is considered an eligible expense. The company comments that its rules "are intended to be restrictive as to cases on which we will offer this benefit. After we have had experience for one year it may be possible to liberalize these rules and make any other necessary revisions."

### WOMEN BEST DENTISTS, DEBATERS SAY

Two dental students from the Université de Montréal successfully upheld the resolution that "females make better dentists than males" in debate several weeks ago. For their triumph over two McGill University debaters, the Montreal team of Helen Kicak and Thomas Draper won a trophy donated by the College of Dental Surgeons of Quebec.

Despite claims that "the history of dentistry is filled with the names of men, not women," and "the torch-bearers of modern dentistry are all male," the McGill team of Morton Perel and Claude Jolin represented a losing cause. The winners pointed out that women were as capable as men in their intellectual capacities and quoted figures to show that women tend to make better use of them.

### BROWN RETIRES FROM FEDERAL HEALTH DEPARTMENT

H. K. Brown of Ottawa retired recently as dental consultant to the Department of National Health and Welfare. Nationally and internationally known for his investigation of the caries-fluoride relationship through the Brantford - Stratford - Sarnia studies, Dr. Brown had served as the senior dental officer with the federal health department since 1947. He is a former chairman of the Association's Council on Public Health (1957-60).

Born in Nova Scotia, Dr. Brown received his early education in that province and in Saskatchewan. He was a school teacher prior to entering the Faculty of Dentistry at the University of Alberta, Edmonton, where he graduated in 1930. Dr. Brown practised in Edmonton, Lethbridge and Barrhead, Alberta until the outbreak of World War II. He was anaesthetist at Barrhead Hospital from 1932 to 1939. During this period he also served as a member of the Alberta legislature (1935-40).

Dr. Brown saw military service in both world wars, with the Canadian Infantry from 1915 to 1918, and with the Canadian Dental Corps between 1939 and 1945. He retired with

the rank of lieutenant-colonel from the Canadian Dental Corps.

In 1946 Dr. Brown received the diploma in dental public health from the School of Hygiene and the Faculty of Dentistry, University of Toronto, prior to assuming the position with the federal government from which he has now retired.



H. K. Brown

### TANNER APPOINTED D.V.A. DENTAL DIRECTOR

D. M. Tanner of Toronto has recently been appointed director of Dental Services in the Department of Veterans Affairs. He succeeds L. A. Kilburn who retired on July 26 after seventeen years' service with the federal department.

After graduation from the University of Toronto, Dr. Tanner practised general dentistry in his native city of Toronto from 1933 until he joined the Canadian Army in 1940. From 1940 to 1945 he served with the Royal Canadian Dental Corps in Canada, England, North Africa and Italy, retiring with the rank of major. He spent four of these years with No. 15 Canadian General Hospital as a member of the maxillo-facial surgery team, and was made a Member of the Order of the British Empire for his services in this specialty.

After World War II, from 1945 to 1958, Dr. Tanner limited his practice to oral surgery. He first associated himself with the Department of Veterans Affairs in 1950 as a consultant in oral surgery at Sunnybrook Hospital, Toronto. In 1958 he became a full-time staff member of the hospital, and in 1961 was appointed chief of service (dentistry) of Sunnybrook.

Dr. Tanner was a staff member of the Faculty of Dentistry of the University of Toronto from 1934 until his retirement as

associate professor in 1961; and a member of the staff of Toronto General Hospital for 29 years, 27 of them as director of dental services. He was consultant in dentistry to the Princess Margaret Hospital, Toronto, from 1937 to 1963, and to the Toronto Hospital for Sick Children from 1950 to 1961. Dr. Tanner also lectured in dentistry to the Faculty of Medicine, University of Toronto, to nurses in training at Toronto General and Wellesley Hospitals, and to civil defence personnel.



D. M. Tanner

He is a fellow and registrar of the Canadian Section of the International College of Dentists. Dr. Tanner has been twice president of the Canadian Society of Oral Surgeons; chairman, for seven years, of the Hospital Dental Services Committee of the Canadian Dental Association; and consultant in oral surgery to the Royal Canadian Dental Corps from 1960 to 1963.

## International Items

### CHAVES NAMED W.H.O. DENTAL OFFICER

M. M. Chaves, regional adviser in dental health to the Pan American Health Organization (Regional Office in the Americas for the World Health Organization) with offices in Washington, has been named dental officer to the World Health Organization in Geneva, Switzerland. Dr. Chaves succeeds F. B. Rice of New Zealand. Dr. Chaves assumes his new position in September.

### SOCIOLOGIST EXAMINES DENTAL HEALTH IN BRITAIN

The following excerpts are from a paper, "A Sociological View of Dental Health" presented to the November 1962 meeting of the Section of Odontology of the Royal Society of Medicine by P. W. R. Morpurgo. Dr. Morpurgo investigated dental health services in Great Britain for the Nuffield Provincial Hospitals Trust Dental Survey Unit, London Hospital Medical College. The paper appears in the May 1963 issue of the *Proceedings of the Royal Society of Medicine*, (56: 347, 1962).

"The increase in the already widespread prevalence of dental caries in children since the last war has emphasized the seriousness of the dental problem on the national scale. "Surveys of school-children [were] carried out under the School Dental Service in seven local education authority areas, in 1948, 1953 and 1958. The age groups were 5-6 years and 12-13 years.

"Between 1948 and 1958, for the 5-year-olds, the average number of decayed, missing and filled (DMF) teeth increased from 4.3 to 5.7, with a decrease from 21.7 to 12.8 per cent of children with no DMF teeth; for the 12-year-olds, the increase in DMF teeth was from 2.9 to 5.5, with a decrease from 19.2 to 5.0 per cent of children with no DMF teeth.

"It must be a cause for serious concern that in 1961 the General Dental Service supplied 14,500 dentures to children under 15 years; a further 14,096 pupils were supplied with dentures under the School Dental Service. (In 1960, there were 8,057,000 children in the United Kingdom between the ages of 5 and 14.)

"Data on treatment in the General Dental Service show a vast and ever-increasing amount of work carried out by the profession, and also indicate a trend toward more conservative work . . . A large, and rising proportion of the courses of treatment are for persons under 21 years; in 1961 this proportion was 44 per cent.

"An analysis of the total cost of treatment shows that, in 1961, 46.1 per cent of fees were accounted for by fillings in permanent teeth, 25.0 per cent by the provision of dentures, and the remaining 28.9 per cent by all other items. It is remarkable that types of treatment referring to periodontal conditions amount to only 5.3 per cent; of this, 5.1 per cent refers to scaling and gum treatment in adults, and 0.2 per cent to prolonged gum treatment.

"The ratio of filled to extracted permanent teeth varies greatly in different parts of the country; in 1958 it was 3.1:1 in London and the South East, but 0.9:1 in the Northern Region and in Wales. To what extent such differences are due to the uneven distribution of dental manpower, to the incidence of disease or to attitudes to dental treatment one cannot say without more information. In all, there are still plenty of extractions. In 1961, 10,617,000 permanent teeth were extracted, including 728,000 permanent teeth extracted from children under 15 years; these figures refer to the General Dental Service. (A further 417,317 permanent teeth in schoolchildren were extracted in 1961 in the School Dental Service.)

"It is particularly disappointing that no attempt has been made by the Ministry of Health to assess the effect on the dental health of the nation, of the vast amount of treatment.

"The records of the School Dental Service show that in 1961, 3,777,044 schoolchildren were inspected out of a total school population of 7,042,873. Two out of every three children



inspected required treatment; of this group 51.3 per cent actually received it. If prevalence of dental disease in those not inspected was similar to the inspected mouths, the proportion of those needing treatment who received it through the School Dental Service was about 27.5 per cent. Many children not treated in the School Dental Service presumably went instead to the general dental practitioner, possibly because he had become the family dentist.

"A recent report on 'Family Needs and the Social Services' includes some information on visits to the dentist by members of families with children under 16 years. Someone in 95 per cent of such families had been either to the general dental practitioner or the local authority service since the start of the National Health Service; some 83 per cent of those interviewed were satisfied with the last treatment received.

"Attitudes of the general public to dental health and treatment are of obvious importance in their influence on oral hygiene, on the training in oral hygiene given by parents to children, and on the pattern of visits to the dentist. Social and economic factors are likely to play an important role in deciding who becomes a patient and how frequently he attends for check-up and treatment. Different sections of the population are likely to regard dental health as having different importance and to accept varying degrees of dental fitness as meeting their needs.

"The relationship between clinical need, actual demand and available supply of dental treatment is complicated and available data are not sufficient for a thorough analysis. Perhaps the only safe generalizations at present possible are (1) that demand for treatment is certainly less than clinical need and occurs often only after long delay; (2) that demand is affected not only by the availability of treatment but also by its cost to the patient.

"[Dr. Morpurgo is also impressed] by the force of discussion in some dental schools, to the effect that what is taught to the dental student cannot readily be put into practice under the National Health Service."

### BRITISH PHYSICIANS AND DENTISTS PROMOTE FLUORIDATION

The British Medical Association has launched a two-pronged effort to obtain public support of fluoridation. In a direct appeal to the public, the British Medical Association joined the British Dental Association in publishing a full-page statement in the British Medical Association's popular health magazine *Family Doctor* urging support of the measure. At the same time the council of the British Medical Association wrote to its 222 divisions throughout the United Kingdom asking them to inform local authorities of the Medical Association's position on fluoridation.

### LONDON NEXT TO FLUORIDATE?

London may be the next major city in line for fluoridation if London County Council will approve its health committee's proposal to add sodium fluoride to the water. London's

water supply serves over six million persons in a 540-square-mile area.

The approval of Britain's Health Minister Enoch Powell has already been promised. Powell announced in parliament last November that he would approve local health authorities' plans to fluoridate. The government also announced it would indemnify any local authority against the cost, direct or indirect, of legal action arising from fluoridation of the water supply.

The proposal to fluoridate London has met with little organized opposition, although opponents have been active in other parts of Britain.

The Ministry of Health, solidly supporting the measure, stated that since fluoride is a natural constituent of all water supplies "the choice does not lie between no fluoride and fluoridation, but between some fluoride and enough for dental protection."

The ministry added that half a million Britons are already drinking water containing enough fluoride for decay prevention.

Last year the ministry published a report on five years of fluoridation in the towns of Watford and Kilmarnock. Results showed reduction in tooth decay ranging from 66 per cent in three-year-old children to 26 per cent in children of six and 14 per cent in seven-year-olds. The proportion of children with no decay at all increased by three-quarters.

The report stated: "No evidence of harm from fluoridation has been discerned despite continuous vigilance."

Agitation of opponents brought the fluoridation project to a halt in Kilmarnock in November 1962, but by that time enough experience had been gained to add to the ministry's report.

Public opinion polls in Watford showed the public there is pleased with the results of the fluoridation project.

Of 146 local health authorities in Britain, 44 have voted for fluoridation, ten have submitted plans to the ministry and three have been approved.

### LABOUR URGES N.Y. CITY FLUORIDATION

The New York City A.F.L.-C.I.O. has thrown its support behind Mayor R. F. Wagner's efforts to secure authorization of the city's water supply to cut down tooth decay among children "by more than half."

The chairman of the labor council's Community Services Committee pointed out that only New York and Los Angeles among America's 12 largest cities have failed to adopt fluoridation, according to a recent press report.

Earlier this year, and following criticism by the *Journal of the American Dental Association*, Mayor Wagner told a press conference that the city will probably institute fluoridation by the end of this year. Opponents of fluoridation reportedly are raising a \$100,000 "war chest" to fight the measure.

### MAYO, SPOCK AND WHITE ENDORSE WATER FLUORIDATION

Three of the most widely known names in American medicine have spoken out in favour of fluoridation—physicians: C. W. Mayo, Benjamin Spock and Paul Dudley White.

Dr. Mayo, head of the world-renowned Mayo Clinic in Rochester, Minnesota, called fluoridation of water supplies a great advance in preventive medicine. He recalled his father, C. H. Mayo, had predicted "as long ago as 1913 . . . that the next great advance in preventive medicine should come from dentistry."

"Fluoridation of water supplies certainly embodies such an advance," Dr. Mayo wrote recently in a statement endorsing the measure.

Dr. Spock and Dr. White each has particularly endorsed the measure for the age group for which he is often considered spokesman.

Dr. White, noted cardiologist, said "elderly people with 'tired hearts' need have no fear of fluoridated water. It is safe for all."

"As a paediatrician interested in preventing ill health, I am enthusiastically in favour of fluoridation," declared Dr. Spock, mentor of millions of children.

Dr. Spock called fluoridation "a wonderful preventive measure which does not depend on the parents' means or on their conscientiousness or on the availability of dentists. If a child from conception receives water which contains one part in a million of fluoride, we know that the amount of decay of the teeth which he will experience during childhood will be reduced by about 60 per cent."

### DENTAL CLINIC CLOSES AFTER FLUORIDATION

One city preschool dental clinic in Hartford, Connecticut, has been closed because of a significant decrease in children's tooth decay rate. L. F. Menczer, Hartford's director of dental services said that the first real effects of fluoridation, started in 1960, are now being felt. The clinic's waiting list started dropping off last year and has since been exhausted.

The remaining one preventive clinic and one treatment clinic will be able to handle the patient load. Staff has been cut by one full-time dental hygienist and one part-time dentist. The closed clinic formerly cost \$5,000-6,000 per year to operate.

### BEGIN ORAL CANCER DETECTION IN CHICAGO

An oral cytology program has been started in the Chicago area by the Chicago Board of Health, the University of Illinois and the Chicago Dental Society. Financed by the U. S. Public Health Service, the program will provide all dentists in the area with free cytology kits which they may use to take Papanicolaou smears of every suspected lesion in the mouths of patients. L. W. Morrey, editor emeritus of the *American Dental Association*, is director of the Chicago city program, and Herman Medak of the suburban program. R. W. Tiecke, assistant secretary of the *American Dental Association's* Council on Dental Therapeutics, is chairman of the Joint Oral Cytology Advisory Board.

### POSTGRADUATE COURSES OFFERED IN NEW YORK

The First District Dental Society will offer a variety of short postgraduate refresher courses during the fall months. Further information concerning these courses may be obtained from J. J. Adelson, First District Dental Society, Statler Hilton Hotel, 7th Avenue and West 33rd Street, New York 1, U.S.A.

### Dental Organizations

#### VICTORIA SOCIETY ELECTS OFFICERS

E. N. Screech was recently elected president of the Victoria and District Dental Society. He succeeds A. Daysmith. Other members of the new executive are W. W. McLuhan, president-elect; A. Daysmith, past president; G. C. Russell, secretary; and D. S. Philip, treasurer. Named as directors were S. R. Richardson, E. P. Gill and J. P. MacPherson.



President J. B. Macdonald of the University of British Columbia (left) was recently made an honorary life member of the British Columbia Dental Association. He receives his membership certificate from M. J. T. Dohan (right), immediate past president of the B.C. association.

#### B.C. ASSOCIATION EXTENDS MOUTH PROTECTOR SERVICE

A pilot study of protective mouth guards for two Vancouver secondary school football

teams has proved successful. Consequently the British Columbia Dental Association has inaugurated a province-wide mouth protector program. In charge is a committee headed by R. J. Warshawski of Vancouver, with a representative from each dental society in the province. All services, except the actual material used, will be donated by dentists who will take the players' impressions; by laboratory technicians who will make the models; and by the association wives who will mould the mouthpieces.

#### LEA IS PRESIDENT OF WESTERN CANADA GROUP

A well-rounded scientific and social program kept delegates to the Western Canada Dental Society convention on the move from the opening cocktail party on Sunday, June 9 to the closing president's ball on Wednesday, June 12. Two hundred and fifty-six dentists attended the scientific sessions headlined by Irving Glickman and I. Kovitz.

A highlight was the presentation of honorary certificates to nine past presidents of the society. They are K. M. Johnson, Howard Merkeley, H. M. Garvin, J. B. Rumberg and W. J. Riley of Winnipeg; L. D. Haselton of Saskatoon, A. R. Hurst of Brandon; C. J. Ward of Edmonton; and J. W. Clay of Calgary.

A Calgary dentist, C. S. Lea, was named president for the forthcoming year.



Honoured at the Western Canada Dental Society convention in Winnipeg, June 12, were past presidents (l. to r.) K. M. Johnson, Winnipeg; L. D. Haselton, Saskatoon; H. J. Merkeley, Winnipeg; J. W. Clay, Calgary; A. R. Hurst, Brandon; H. M. Garvin, J. B. Rumberg and W. J. Riley, Winnipeg; and C. J. Ward, Edmonton.





D. H. MacDougall (r.), newly elected president of the Edmonton and District Dental Society, receives the presidential gavel from retiring society president R. P. Mullen (l.).

#### MACDOUGALL IS PRESIDENT OF EDMONTON SOCIETY

D. H. MacDougall was inducted as president of the Edmonton and District Dental Society at the society's May meeting. He succeeds R. T. Mullen.

In his presidential address to the society retiring president R. T. Mullen paid special tribute to the society's pilot study on mouth protectors for hockey players. This project is directed by M. M. Blackburn.

Following the consideration of financial and committee reports, Dr. Mullen presented the society's gavel to incoming president D. H. MacDougall. A former president, G. T. Lindscoog, concluded the ceremony with the presentation to Dr. Mullen of the past-president's plaque.

#### CALGARY DENTISTS STAGE TALENT NIGHT

Local practitioners pooled their knowledge and skills on May 6 for the Calgary and District Dental Society's annual "Local Talent" Night. Speaking on aesthetics in mouth rehabilitation was G. L. Locke. Table clinics were presented by R. L. Rasmussen, A. G. Kluzak, E. F. Allison, E. W. P. Luxford, A. A. Taylor, W. T. Hanna, and the Calgary Orthodontic Study Group.

C. B. Johnson was made an honorary life member of the Calgary and District Dental Society in recognition of fifty years of practice in the city of Calgary. C. M. Johnson accepted the honour on behalf of his father.

The new executive of the Calgary and District Dental Society comprises A. D.



E. F. Allison (l.), past president of the Calgary and District Dental Society, presented an honorary life membership to long-time Calgary practitioner J. W. Clay (r.) at the March meeting of the Foot-hills city dental group.

Sparrow, president; A. G. Kluzak, president elect; B. G. Saik, secretary; E. W. P. Luxford, treasurer; and E. F. Allison, past president.

#### PAEDODONTICS FEATURED AT MONTREAL MEETING

Cavity design for proximo-occlusal amalgam restorations in deciduous teeth was the subject of the May clinical meeting of the Montreal Dental Club. Reviewing various types of cavity design developed during the past ten years, G. Weinlander, assistant professor and chairman of the Department of Paedodontics, McGill University, demonstrated the type of cavity design and instrumentation currently taught at McGill University. A motion picture and slides, illustrating photo-elastic stress analysis of the class 2 restoration, were used to depict critical areas of cavity preparations. Dr. Weinlander demonstrated how these stress areas can be eliminated, thereby prolonging the life of the restoration.

At the business meeting A. W. Oliver reported on the actions taken by the Board of

Governors of the Canadian Dental Association at the national convention in Toronto. Members also paid tribute to former club president N. L. Martin who recently retired. A visitor from England, J. Lambert of London, was introduced and offered comments on dental aspects of the British National Health Service.

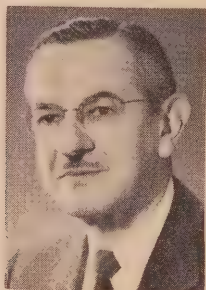
## MONTREAL DENTISTS DISCUSS SOCIO-ECONOMIC TRENDS

Present socio-economic trends in dentistry formed the subject of a special meeting of the Montreal Dental Club held on June 24. J. M. Chamard and A. W. Oliver, club president, reported recent developments in this field from the Canadian Dental Association headquarters.

Club members expressed unanimous disapproval of any restrictive form of government control over dentistry and urged that positive steps be taken to forestall the inauguration of plans which are not in the best interests of patients and practitioners.

Additional meetings are planned to allow members to become better acquainted with problems confronting the profession.

## ELFENBAUM TO DELIVER MOWRY MEMORIAL LECTURE IN MONTREAL



Arthur Elfenbaum

Arthur Elfenbaum, professor emeritus of the University of Illinois and Northwestern University dental schools, will deliver this year's D. P. Mowry Memorial Lecture in Montreal. Sponsored annually by the Mount Royal Dental Society, this year's lecture will be given on September 13 at Montreal's Queen Elizabeth Hotel. Attendance at the lecture,

which commemorates the late D. P. Mowry, former dean of McGill University's dental school, is open to all dentists.

The subject of this year's lecture is "Gerodontics: newer problems of our older patients." Following the lecture, Dr. Elfenbaum will conduct a two-day course for members of the Mount Royal Dental Society on "Practical application of diagnosis in the dental office."

## CANADIAN ACADEMY OF DENTAL SCIENCES FORMED

The first meeting of the newly formed Canadian Academy of Dental Sciences was held at the Université de Montréal May 19, 1963. On this occasion I. F. Miller of New York City was the clinician at an all-day scientific program devoted to oral rehabilitation. Honorary memberships were conferred at the closing dinner on former deans of the Faculty of Dental Surgery, Université de Montréal, Ernest Charron and Paul Geofrion, and on Dr. Miller.

The Canadian Academy of Dental Sciences was recently founded by a group of dentists who desire to improve their knowledge of the art and science of dentistry. Yves Dufrêne of Trois-Rivières is the first president.

## FOUNDED DENTAL ASSISTANTS' GROUPS

Mrs. Marion Edwards, 78, of Brooklin, Ontario, died June 9. She had founded three associations of dental assistants, in Toronto, in Ontario, and the Canadian Dental Nurses and Assistants Association. She was an honorary member of similar organizations in the United States and Britain.

## MACINTYRE HEADS PRINCE EDWARD ISLAND ASSOCIATION

J. P. MacIntyre was elected president of the Prince Edward Island Dental Association when the group held its annual meeting in Charlottetown May 11, 1963. Other officers elected with Dr. MacIntyre were Senator O. H. Phillips, vice president; G. D. Barrett, secretary-treasurer; and H. MacIntyre and D. A. Stewart, council members. A. L. McIsaac is the Prince Edward Island representative to the Board of Governors of the Canadian Dental Association, K. A. MacEachern is provincial associate editor of the

*Journal of the Canadian Dental Association.*  
The 1964 Atlantic Provinces Convention chairman is L. I. Duffy.

### BURKE HEADS NOVA SCOTIA ASSOCIATION

J. F. Burke of Sydney was elected president of the Nova Scotia Dental Association at the group's annual meeting on June 8. W. H. MacNeil of Halifax is secretary, and J. R. Fraser of New Glasgow is president-elect. Elected as members of the executive committee were H. P. MacCormack, D. G. Pentz, P. S. Christie. G. M. Dewis, H. M. Eaton, and J. E. Merritt. D. M. J. Bonang of Halifax was appointed editor of the association's *N.S.D.A. News Letter*.

During the past year the Nova Scotia Dental Association has added nine new members and lost three, leaving a net membership of 238. Of this number 39 are with the Royal Canadian Dental Corps, four with the Department of Veterans Affairs, two are employed by public health agencies, two are employed in the Yukon Territory, six are full-time dental school teachers, eight are non-resident, and six others are not practising. This leaves a total of 170 dentists serving the public in Nova Scotia.

The Nova Scotia Dental Association recently donated \$500 to the Canadian Fund for Dental Education. This is equivalent to \$3 per practising dentist.

### SABLE IS PRESIDENT OF HALIFAX DENTISTS

H. L. Sable was named president of the Halifax County Dental Society at a meeting on May 31. D. A. Eisner is secretary and G. E. Clark is president-elect.

A Maritime dental supply firm presented a demonstration of ultrasonics in dentistry to the dentists of Halifax and surrounding area on June 10.

### Royal Canadian Dental Corps

#### STUDENT OFFICERS TOUR R.C.A.F. OVERSEAS

Eighteen undergraduate officers left Canada on July 1 by service aircraft for a two-week

tour of units of No. 1 Air Division with headquarters at Metz, France. The trip was part of their second-year summer training and was designed to acquaint them with the role and customs of the Royal Canadian Air Force, with which they may serve following graduation. Such training was previously conducted at R.C.A.F. Station Centralia.

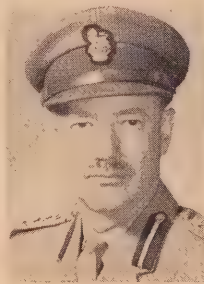
Major D. H. Protheroe, one of the instructors at the Royal Canadian Dental Corps School, acted as conducting officer for the tour which followed three weeks with the Royal Canadian Navy at Halifax. The party returned to Canada on July 12 and proceeded to Camp Borden for the remainder of their summer training at the R.C.D.C. School.

### EDMONTON UNIT AWARDED MOORE TROPHY

For the second year in a row, No. 60 Dental Unit R.C.D.C.(M), Edmonton, won the Moore Trophy for their fine showing in the General Efficiency Competition. This trophy is indicative of the highest general efficiency in units across Canada. The unit is commanded by Lt.-Col. S. G. Geldart.

No. 57 Dental Unit, Winnipeg, commanded by Lt.-Col. H. J. Snidal, was awarded the Trelford Trophy for placing second, and No. 54 Dental Unit, Ottawa, commanded by Lt.-Col. H. J. Chartrand received the Saskatchewan Dental Association Memorial Trophy for the most improved unit during the training year.

### COL. SHILLINGTON RETIRES



Col. G. B. Shillington

Colonel G. B. Shillington C.D., D.D.S., B.Sc., Q.H.D.S., F.I.C.D., Deputy Director General of Dental Services for the Canadian Forces,



retired from the Canadian Army in June.

Born in Blenheim, Ontario, Colonel Shillington received his degree in dentistry from the University of Toronto in 1934 and spent the following year at the Forsyth Dental Infirmary, Boston, Massachusetts. Returning to Toronto, he obtained his Bachelor of Science degree in 1937 and subsequently entered private practice in that city.

Commissioned in October 1939 in the Canadian Dental Corps, he proceeded overseas in 1941, serving in the United Kingdom and the Near East. He returned to Canada in 1946 with the rank of lieutenant-colonel, and following his appointment to No. 36 Dental Company, Trenton, was posted to Army Headquarters as Deputy Director of Dental Services.

After serving as Commandant of the R.C.D.C. School at Ottawa for a year, Colonel Shillington assumed command of No. 11 Dental Company, Edmonton, in August 1954 and was promoted colonel in October 1955. He returned to Army Headquarters in 1957 as senior consultant and was appointed a Queen's Honorary Dental Surgeon in June 1958. On his retirement, Colonel Shillington was Deputy Director General of Dental Services, in which capacity he served for the past five years.

Married with two children, Colonel Shillington is returning to private practice in Manotick, Ontario.

### MAJ. ANDREWS RETIRES

Major J. G. Andrews retired from the Canadian Army in June after 22 years of continuous service in the Royal Canadian Dental Corps. Born and educated in Toronto, he graduated in dentistry from the University of Toronto in 1941.

Major Andrews served overseas during the Second World War and subsequently at various Army Bases and R.C.A.F. Stations, including Whitehorse Y.T. He spent the last five years at R.C.A.F. Station Trenton.

Married with four children, Major Andrews will enter private practice in Toronto.

### U.S. NAVY EXCHANGE OFFICER COMPLETES TOUR

Capt. R. R. Troxell, U. S. Navy (D.C.), recently completed a two-year exchange posting at the R.C.D.C. School, Camp Borden and has returned to the United States for employment at the U. S. Naval Dental School, Bethesda, Maryland.

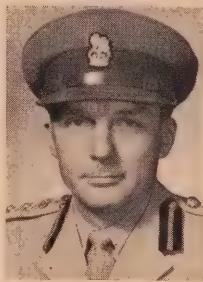
During the past year, Captain Troxell served as chief instructor at the R.C.D.C. School. He will be replaced in that appointment by Lt.-Col. J. W. Turner who has been on the staff at Bethesda for a similar period as the R.C.D.C. representative on the exchange posting.



Capt. R. R. Troxell

### FOUR OFFICERS PROMOTED

The following promotions were recently announced by Army Headquarters: Lt.-Col. G. R. Covey to Colonel, Major L. A. Richardson to lieutenant-colonel, and Captains G. T. Crossman and L. E. Kelly to major.



Col. G. R. Covey

Colonel Covey graduated from the University of Toronto in 1941 and was commissioned the same year. He commanded No. 25 Canadian Dental Unit in Korea from July 1952 to 1953, where he was awarded the M.B.E. He later commanded No. 35 Field Dental Unit in France and has served as Deputy Director of Dental Services at Army Headquarters since 1961.

Colonel Covey is married with one child.

Lieutenant-Colonel Richardson was born in Edmonton. After serving with the Royal Canadian Air Force during the Second World War, he returned to take his dental degree at the University of Alberta.

On graduation in 1948 he was commissioned in the Royal Canadian Dental Corps. Since then he has served at various locations in Canada as well as Korea and Germany. Lt.-Col. Richardson is married with two children. He is currently stationed at Winnipeg with No. 14 Dental Coy.



Lt.-Col. L. A. Richardson

Major Crossman is a native of Sackville, Nova Scotia. His military career dates back to 1936 at which time he enlisted in the Non-Permanent Active Militia. Awarded the Distinguished Flying Cross for service with the Royal Canadian Air Force during the war, he subsequently returned to Canada and graduated in dentistry from Dalhousie University in 1953. Major Crossman is married with two children and is employed at R.C.A.F. Station Greenwood, Nova Scotia.

Major Kelly was born in Vancouver and served with the Canadian Army (A) and Royal Canadian Air Force during the Second World War. He graduated in dentistry from McGill University and has recently returned from a tour with No. 4 Field Dental Company in Germany. Major Kelly is married with five children.

### SHORT SERVICE OFFICERS TAKE THEIR RELEASE

The following officers have elected to take their release from the Canadian Army: Capt. M. A. Abramson, Capt. P. J. J. Coulloume, Capt. D. G. Gardner, Capt. O. A. Tucker, Capt. A. J. J. C. Vachon and Capt. L. C. Gray.

## Research

### FLUORIDE DIETARY PRODUCT STUDY AUTHORIZED

The American Dental Association's Council on Dental Therapeutics has authorized a co-operative evaluation of fluoride dietary products which may be prescribed by both dentists and physicians. The evaluation is to be made by the Council on Foods and Nutrition of the American Medical Association and by the American Dental Association's council.

The Council made no change in the Group B classification (products which lack sufficient evidence to justify present acceptance, but for which there is reasonable evidence of usefulness and of safety) of *Crest* toothpaste. The Council also noted that since the other ingredients in a stannous fluoride dentifrice may have a role in modifying the effectiveness of the product in reducing the incidence of dental caries, adequate clinical studies must serve as the basis for determining the usefulness of each specific formulation. Other dentifrices containing stannous fluoride are currently being tested clinically by a number of United States companies. An evaluation of the results of these clinical studies will be helpful in determining the area of usefulness of these products, the Council reported.

## Public Health

### NEW ZEALAND DENTAL NURSES DISCUSSED AT C.P.H.A. MEET

A Saskatoon orthodontist and a Regina public health dentist reported their impressions of the New Zealand dental nurse scheme to delegates at the recent annual meeting of the Canadian Public Health Association, Winnipeg, May 28-30. Speaking to a dental section meeting about their visit to New Zealand last year were J. J. Schachter, orthodontist, and A. E. Chegwin, dental director of the Saskatchewan Department of Public Health. Presiding at the section meeting was W. H. Feasby, associate professor (Paedodontics) at the University of Manitoba. Dean J. W. Neilson of the Faculty of

Dentistry, University of Manitoba, summarized the reports.

Another speaker on the general program of the convention was J. M. Dunning, assistant clinical professor of Public Health Dentistry and director of Dental Services to the University Health Service, Harvard University. Dr. Dunning spoke on the role of dentistry in public health programs.

Visiting delegates were tendered a luncheon by the Manitoba Dental Association. M. G. Shapera, chairman of the Dental Public Health Committee of the Manitoba Dental Association, presided at the luncheon. The Hon. J. B. Carroll, Minister of Welfare for the province of Manitoba, extended a welcome on behalf of the province. Mr. Carroll referred to the fact that more than 50 per cent of the people of Manitoba benefitted from water fluoridation. He also complimented physicians and dentists of the province for the excellent co-operation existing between all segments concerned with public health.

On behalf of the province Mr. Carroll presented Dr. Dunning with a lapel pin, bearing the official coat of arms of the province of Manitoba, as a token of esteem and recognition to a distinguished participant at the convention.

### DENTAL HEALTH IMPROVES IN VANCOUVER

Notable improvement in the dental health status of Vancouver children, as reflected in

a comparison of results from 1956, 1957, 1958 and 1962 provincial dental health surveys, completely justify the city's preventive dental program according to D. J. Yeo, the city's director of dental health services. Kindergarten and grade 1 children continue to exhibit a high level of dental care as a result of team-work by the city's dentists and the Metropolitan Board of Health Dental Services, says Dr. Yeo in his 1962 annual report. Ninety-two per cent of the 4,451 kindergarten children and 95 per cent of the 11,876 grade 1 children enrolled in the city's schools were in good dental health at year end. There were 6,458 grade 1 children who required treatment during 1962, 3,760 of whom were treated in clinics. Family dentists cared for 2,212.

A pilot project undertaken last year to determine the value and utilization of mouth protectors by high school athletes proved eminently successful. Eighty per cent of the participating players wore their mouth guards at all practices and games. No tooth or mouth injuries were reported.

### FLUORIDATION DEFEATED

Although a majority supported fluoridation in Lac La Biche, this Alberta town cannot fluoridate its water. Alberta legislation requires a two-thirds majority in fluoridation plebiscites. The vote in this town of 1,400 was 220 in favour and 154 opposed.

## book reviews

### ELECTROSURGERY IN DENTISTRY

M. J. Oringer. *Philadelphia and London, Saunders, 1962.* (Available from McAllinsh & Co., Ltd., Toronto and Vancouver) 428p. Illus. \$19.45

The subject matter of this text is well presented and provides the reader with excellent photographs, drawings and diagrams depicting both equipment used as well as many actual cases. In addition to an inter-

esting historical account of the progress of electrosurgery, Dr. Oringer presents a clarification of terms and nomenclature and describes the variety of equipment available along with the underlying principles and techniques of use. The third chapter entitled "Experimental practice techniques" provides the dental profession with methods of self-instruction in the use of electrosurgery prior to clinical application.

Five chapters demonstrate the many uses of electrosurgery in general practice in the



fields of operative dentistry, crown and bridge prosthodontics, orthodontics, periodontics, and in preparing the alveolar ridges for prosthesis.

The final three chapters show how electro-surgery is used in routine dento-alveolar surgery, more difficult oral surgery cases and in biopsy techniques.

The author's long experience in the field of electrosurgery is clearly demonstrated in the concise presentation and orderly arrangement of the material in this text.

R. S. Van Alstine

### FULL ARCH FIXED ORAL RECONSTRUCTION SIMPLIFIED

L. I. Linkow. New York, Springer Publishing Co. Inc., 1962. 336 p. Illus. \$17.50

This text deals almost exclusively with full coverage preparations. The technique essentially is a refinement of the copper band—plaster of paris method. Since all the preparations are tapered and rounded, the old problem of impression distortion is overcome. The use of transfer copings has been eliminated by simultaneously plating all of the compound impressions in a plaster index. Many of the cases illustrated were completed in three visits.

The author states that as long as a tooth cannot be extracted with the fingers it can be utilized in full arch reconstruction. Indeed, teeth once considered hopeless have remained serviceable for many more years when immobilized in arch reconstruction.

This book should prove extremely useful to the general practitioner. Many problems which present in fixed prosthesis construction are here covered and the solutions presented.

Large diastemata, tilted abutments, extreme overbites, Class II and III malocclusions, exfoliation, and crowded and irregular anterior teeth are but a few of the problems covered. The author utilizes endodontic therapy, apicoectomy, resection of a complete root on a multirrooted tooth, crown amputation, and gingival re-contouring to retain strategic teeth, and by his own statement is conservative in tooth preservation but radical in rehabilitative techniques.

While this reviewer may question the universal use of complete coverage, particularly in the anterior region, this book contains a wealth of information and is a valuable contribution to the ever-growing art of mouth reconstruction.

A. C. Robinson

### CLINICAL DENTAL HYGIENE

S. Peterson. Ed. 2. St. Louis, C. V. Mosby Co., 1963. 356 p. Illus. \$7.00

This textbook offers an introduction to several aspects of clinical practice of the dental hygienist. The book is arranged in twelve chapters with frequent cross references, but each chapter is an independent unit. With one or two exceptions, the sixteen contributors are dentists and dental hygienists associated with educational programs in dental hygiene.

Major revision of the second edition is noted in the first chapter where facts and figures have been brought up-to-date. There are a number of new illustrations. New material has been included in two chapters—discussion of mechanical aids to oral prophylactic treatment (*Cavitron* and *Dyna-naire*) and of a sonic device for cleansing instruments prior to sterilization.

For those who are not familiar with this text, the first chapter provides information on the development of the dental profession and its auxiliaries. The figures given depict the dental manpower situation in the United States. However, the points made for the greater utilization of dental auxiliaries, especially the dental hygienist, are equally pertinent in Canada. For the dental hygiene student, this chapter indicates the responsibilities of each member of the dental health team. The second chapter amplifies the interrelationship of members of the dental health team and illustrates how the responsibilities each assumes are important to the quality of service to the patient and the environment of the dental office.

Chapter three considers the relationship between clinical dental hygiene, the basic sciences and general education. The dental hygiene student who learns that the "basic sciences provide reasons, logic and explanation for technical procedures" will be better motivated for learning and for adapting new knowledge to clinical situations.

Chapters on instruments and chairside assisting, dental materials and their application, dental radiology, and methods of sterilization are well prepared and easily read. The "whys" of certain precautions and procedures in the dental office, as discussed in these chapters, are important to the student. In most of the chapters there is little emphasis on techniques but such information may be obtained from other sources.

Two chapters—"An introduction to oral prophylaxis" and "Deposits on the teeth"—are of particular interest to the dental hygiene student. The chapters on case histories and records, appointment procedures and recall systems stress the need for accurate

records and are of general interest. The final chapter discusses the role of the dental hygienist in preventive dentistry. It provides a digest of all known principles of preventive dentistry now included in the realm of dental hygiene practice. This chapter may serve as a base upon which each principle may be expanded until health educational activities do permeate each area of endeavour of the student hygienist and the practising dental hygienist.

This book was published for the student hygienist, but, with the possible exception of two chapters, the information is equally valuable to the dental assistant. The practising dentist may also find it helpful in defining the areas of responsibility of each of his auxiliaries.

*Janet R. Burnham*

#### A PRIMER OF PATHOLOGY

*F. A. Ward. London, Butterworths, 1962. (Available from Butterworth & Co. [Canada] Ltd., Toronto) 116 p. \$3.50*

This is a most interesting and unusual book. It is interesting in that the author presents in 116 pages the basic concepts and ideas of modern pathology. He presents a complex and growing subject in a manner which is easy to read and understand. The reader is made aware not only of the basic processes in pathology, but, something which is even

rarer, their relative importance. He is also made aware of the great names in pathology as well as the advances these men have made in the subject.

The book is also unusual in that the author's effervescent humour bubbles to the surface in the most unusual places. Most pathologists are renowned for their rather dry and sometimes macabre wit, but it rarely bursts into print. In this book the author is neither dry nor macabre—just puckish.

It would seem to the reviewer that this is a most timely publication. Dental students everywhere could read it with great profit both at the beginning and the end of their course. At the beginning it would introduce them painlessly and pleasantly to a complex subject which is to be the very basis of their future practice. At the end of the course it will help them join together loose ends and bring sharply into focus the things that are important.

This book can and should be read by dental practitioners of all ages. They can throw away any prejudices they may have on this subject and read this book for the sheer enjoyment of reading something entirely fresh and novel, and at the same time learn about the patients they treat every day in their offices. Pathology is the basis of medicine. If we do not understand the basic concepts of medicine, then we do not deserve the right to practise a healing art.

Congratulations are due to the publishers for bringing such a book onto the market, and at such a reasonable price.

*J. R. Trott*

#### additions to the library

AMERICAN PUBLIC HEALTH ASSOCIATION, INC. Committee on Child Health. Services for children with dentofacial handicaps; a guide to public health personnel. New York, The American Public Health Association, Inc., 1955. 67 p. \$2.50

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- BURNETT, G. M. and SCHER, H. W. Oral microbiology and infectious diseases. Ed. 2. Baltimore, Williams & Wilkins Co., 1962. 1003 p. illus. \$14.25
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- CURRIE, D. J. and SMIALOWSKI, A. Photographic illustration for medical writing. Springfield, C. C. Thomas, 1962. 116 p. illus. \$8.90
- CUSUMANO, C. L. Malpractice law dissected for quick grasping. New York, Medicine-Law Press, Inc., 1962. 132 p. \$10.80
- DUYZINGS, J. A. C. Orthodontic appliances. Brooklyn, Leo L. Bruder, 1954. 207 p. illus. \$13.00
- EKHOLM, A. Fractures of condyloid process of mandible. (Suom. Hammaslaak, Toim., Vol. 57, 1961, Suppl. I.) 80 p. illus.
- ENLOW, D. H. Principles of bone remodeling. Springfield, C. C. Thomas, 1913. 131 p. illus. \$8.10
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- GARDNER, A. F. Dental examination review book. Vol. I: oral pathology, oral roentgenology, periodontics. New York, Medical Examination Publishing Co., Inc., 1963. 222 p. \$6.50
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## in memoriam

R. R. McIntyre



**REYBURN R. MCINTYRE**—Dr. R. R. McIntyre of Calgary, Alberta, died on May 23, 1963. He was 71. Teacher, practising orthodontist, and dental leader, Dr. McIntyre was born in Wyoming, Ontario, in 1891. He received his early education in Clearwater, Manitoba, and graduated from the Royal College of Dental Surgeons of Ontario in 1922. He first practised in Morden, Manitoba, and later came to Calgary, Alberta. Dr. McIntyre served as president of the Calgary and District Dental Society and the Alberta Dental Association. In 1950 he became the first chairman of the Orthodontic Section of the Canadian Dental Association. He was president of the Canadian Dental Association from 1955 to 1956. In the academic field, Dr. McIntyre served as head of the Department of Orthodontics at the University of Alberta. Upon his retirement in 1947 he was made an honorary professor of the Faculty of Dentistry. Following his retirement he inaugurated the first extension course in orthodontics for general practitioners in Canada and travelled many thousands of miles over a period of years to examine child patients and give instruction to dentists practising in rural areas remote from the services of a specialist. For the past several years Dr. McIntyre was chairman of the Committee on Student Recruitment for Alberta, as well as representative for the four western provinces on the National Recruitment Committee of the Canadian Dental Association. Dr. McIntyre was a fellow in the International College of Den-

tists and an honorary member of the Western Canada Dental Society. During the first World War he served for four years with the Canadian Dental Corps. Dr. McIntyre is survived by his wife, Sibyl.

**LAWRENCE A. BARRETT**—Dr. L. A. Barrett of Preston, Ontario died on April 29, 1963. He was 86. Shortly after graduation from dental school Dr. Barrett went to Galt, Ontario, where he practised until his retirement. Later he moved to Preston. Dr. Barrett is survived by a son, Richard E. of Port Hope; and a daughter, Mrs. Kenneth A. Eldridge of Montreal.

**WILLIAM HAROLD CHINNECK**—Dr. W. H. Chinneck of Edmonton, Alberta died on May 21, 1963. He was 81. Dr. Chinneck was born in London, Ontario in 1882. After graduating from Temple University in 1910, he practised in Ponoka, Alberta before going to Edmonton. He was a life member of the Edmonton & District Dental Society. Dr. Chinneck is survived by his wife, Helen Chinneck; two sons, William of Edmonton and John of Calgary; one daughter, Mrs. Ray Leask of Sault Ste. Marie; and six grandchildren.

**MARION EDWARDS**—Mrs. Marion Edwards of Brooklin, Ontario died on June 9, 1963. She was 78. Mrs. Edwards was employed as a dental assistant with the Department of Public Health in Toronto for 40 years. During this time she helped to organize local dental nurses' and assistants' associations in many Ontario cities. The founder of the Toronto, Ontario and Canadian Dental Nurses' and Assistants' Associations, Mrs. Edwards also helped to create similar associations in other provinces. Mrs. Edwards was an honorary member of the American Dental Assistants' Association and the British Dental Nurses' Society. She is survived by two daughters, Mrs. Jack Gray of Brooklin and Mrs. Payton Shaw Kelly of Cleveland, Ohio.

RALPH E. ROBERTSON—Dr. R. E. Robertson of Collingwood, Ontario died on May 2, 1963. He was 77. Dr. Robertson was

born in Monkton, Ontario. Following his graduation from the University of Toronto he entered practice in Collingwood where he continued until his retirement in 1946.

## conventions

### **Northern Ontario Dental Association meets at Kirkland Lake September 6-8, 1963**

The Northern Ontario Dental Association Convention will be held this year at Kirkland Lake, Ontario, September 6-8, 1963. The program commences with a reception on September 6 at 9.00 p.m. Included in the scientific program are the following clinicians:

R. A. CLAPPISON, D.D.S.: Crown and bridge prosthodontics

J. S. JAMIESON, M.D.: Oro-antral fistulae

*C.D.A. Library Trust Fund* • The circulation of books and periodicals by the Canadian Dental Association's Library provides a valuable service to Association members. Increased circulation and the purchase of new texts make greater demands on the Association's library trust fund. All donations to the fund are therefore gratefully received. Donors are furnished receipts which entitle them to income tax deduction.

*Board of Governors* • The Board of Governors of the Canadian Dental Association is composed of members selected by dental organizations in all ten provinces. The Board meets annually just before the national convention of the Association. Any member of the Canadian Dental Association may participate in the Board's annual meeting. Canadian dentists are urged to avail themselves of this opportunity to participate in the affairs of their profession.

## announcements

### CONVENTIONS OF THE CANADIAN DENTAL ASSOCIATION

|      |                      |                |
|------|----------------------|----------------|
| 1964 | Edmonton, Alberta    | June 28-July 1 |
| 1965 | Quebec City, P. Que. | May 30-June 2  |

### FUTURE EVENTS

| Date                    | Function                                                       | Location                            | Officer                            | Address                                              |
|-------------------------|----------------------------------------------------------------|-------------------------------------|------------------------------------|------------------------------------------------------|
| Sept. 6-8,<br>1963      | Northern Ontario<br>Dental Association                         | Kirkland Lake                       | Dr. N. O.<br>Doner                 | Kirkland Lake,<br>Ont.                               |
| Sept. 16-18,<br>1963    | Eastern Ontario<br>Dental Association                          | Seigniory Club,<br>Montebello, P.Q. | Dr. A. C.<br>Murchison             | 566 Byron Ave.,<br>Ottawa 13, Ont.                   |
| Sept. 22-25,<br>1963    | XIVth Dental Meeting<br>Asociación Odontol-<br>ógica Argentina | Buenos Aires,<br>Argentina          | Dr. A. F.<br>Alvarez               | Junín 959,<br>Buenos Aires,<br>Argentina             |
| Oct. 14-17,<br>1963     | American Dental<br>Association                                 | Atlantic City,<br>New Jersey        | Dr. H.<br>Hillenbrand              | 222 East Superior<br>Street, Chicago<br>11, Illinois |
| Oct. 17-20,<br>1963     | Austrian "Dentisten"<br>Congress                               | City Hall,<br>Vienna                |                                    | 11 Kohlmarkt,<br>Vienna 1,<br>Austria                |
| Oct. 20-24,<br>1963     | 35th Italian Stoma-<br>tological Congress                      | Rome,<br>Italy                      | Dr. P.<br>Lalli                    | Via Savoia<br>No. 78,<br>Rome, Italy                 |
| Oct. 26-30,<br>1963     | Montreal Dental Club<br>Annual Fall Clinic                     | Queen Elizabeth<br>Hotel, Montreal  | Dr. W.<br>Kowall                   | 1410 Guy<br>Street, Mont-<br>real, P. Que.           |
| Nov. 17-22,<br>1963     | VIIth Mexican Den-<br>tal Congress                             | Mexico City,<br>Mexico              | Dr. R. San-<br>chez-Wood-<br>worth | Sinaloa No.<br>9, México 7,<br>D.F., Mexico          |
| 25 nov.-1<br>déc., 1963 | XXXVIIes Journées<br>Dentaires Inter-<br>nationales de Paris   | Maison de la Chimie,<br>Paris       | M. Henri<br>Huguet                 | 33 ave Pierre<br>ler de Serbie,<br>Paris 16e, France |
| Nov. 28,<br>1963        | Annual Winter Clinic,<br>Academy of Dentistry                  | Royal York Hotel,<br>Toronto        | Mrs. N. H.<br>Montgomery           | 230 St. George<br>Street, Toronto<br>5, Ont.         |

### POSTGRADUATE AND REFRESHER COURSES (U.S.)

OHIO—October 21-25, 1963—General Anaesthesia

OHIO—October 28-30, 1963—Oral Surgery

TUFTS—October 21-25, 1963—Special Participation Course in Periodontology

*Note* • Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.



*L'Association Dentaire Canadienne*

Volume 29

Numéro 8

août 1963

JOURNAL

*The Canadian Dental Association*

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## **Emploi de médicaments pour contrôler l'anxiété et la douleur**

*par W. B. Donohue, D.D.S., M.Sc., Montréal, P.Qué.*

Un des problèmes journaliers du dentiste est le contrôle de l'appréhension et de la douleur du patient. L'emploi de drogues peut aider le praticien à contrôler ce problème. Les trois groupes de médicaments employés pour ce but sont:

1. *Les analgésiques* utilisés pour alléger la douleur. De plus, les analgésiques narcotiques produisent un état d'euphorie et même le sommeil.

On suggère les règles suivantes pour obtenir un maximum d'efficacité:

(a) donner l'analgésique avant le début d'un traitement douloureux;

(b) donner des petites doses à des intervalles réguliers, plutôt qu'une seule forte dose;

(c) utiliser un analgésique de force proportionnelle à la douleur présente.

2. *Les sédatifs* utilisés pour alléger l'anxiété et l'appréhension. Ces médicaments ne soulagent pas la douleur et peuvent dans certains cas produire un état

TABLEAU 1 Emploi de médicaments pour contrôler l'anxiété et la douleur.

| Médicament                      | Emploi                                              | Posologie                                                     | Durée de l'action | Avantages                                                                    | Désavantages                                                            |
|---------------------------------|-----------------------------------------------------|---------------------------------------------------------------|-------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Pentobarbital (Nembutal)        | sédatif et hypnotique                               | 100 mg. (1 ½ gr.)<br>voie buccale                             | 2-4 hres          | action courte;<br>début d'action:<br>30 min.;<br>supplément N <sub>2</sub> O | forte dose cause<br>dépression<br>respiratoire                          |
| Sécobarbital (Seconal)          | sédatif et hypnotique                               | 100-300 mg.<br>(1 ½ à 3 gr.)<br>voie buccale                  | 2-4 hres          | action courte;<br>début d'action:<br>30 min.;<br>supplément N <sub>2</sub> O | forte dose cause<br>dépression<br>respiratoire                          |
| Hydrate de chloral              | sédatif et hypnotique                               | 0.6 Gm. (10 gr.)<br>voie buccale dans<br>un sirop             | 5-8 hres          | début rapide                                                                 | odeur et goût<br>désagréables                                           |
| Paraldéhyde                     | sédatif et hypnotique                               | 4 c.c. (1 drachme)<br>voie buccale dans<br>un sirop           | 5-8 hres          | début rapide                                                                 | irritation aux<br>muqueuses;<br>odeur et goût<br>désagréables           |
| Prométhazine (Phenergan)        | sédatif et soulage l'anxiété                        | 30-50 mg. intra-<br>musculaire;<br>50-75 mg.,<br>voie buccale | 3-5 hres          | aucune dépression<br>respiratoire;<br>apaisement avec<br>coopération         | sensation de brûlure<br>à l'endroit de<br>l'injection; agitation        |
| Méprobamate (Equanil) (Miltown) | antihistaminique;<br>sédatif;<br>soulage l'anxiété. | 400 mg. voie<br>buccale t.i.d.                                | 2-4 hres          | aucune dépression<br>respiratoire                                            | accoutumance<br>possible                                                |
| Codéine                         | analgésie                                           | 30-60 mg. (½<br>à 1 gr.) voie<br>buccale                      | 2-3 hres          | aucune dépression<br>respiratoire                                            | soulage douleur<br>légère (4 fois moins<br>efficace que la<br>morphine) |
| Mépididine (Demerol)            | analgésie                                           | 50-100 mg. voie<br>buccale ou intra-<br>musculaire            | 2-4 hres          | nausées et dé-<br>pression respira-<br>toire, moins qu'avec<br>la morphine   | accoutumance<br>possible                                                |
| Morphine                        | analgésique;<br>sédatif et hypnotique               | 1/6 à 1/4 gr.<br>intramusculaire                              | 3-5 hres          | analgésique et<br>hypnotique                                                 | accoutumance; forte<br>dose cause dépres-<br>sion respiratoire          |

d'agitation et de non-coopération. En forte dose, ils produisent le sommeil. A souligner qu'un patient à qui on a administré un sédatif devrait être toujours accom-  
pagné.

3. *Les ataraxiques* (tranquillisants), quoique n'étant pas strictement des sédatifs, peuvent être cependant employés pour leur propriété sédatif.

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*La Bibliothèque de l'A.D.C.* • La bibliothèque de l'Association dentaire canadienne dispose de milliers de volumes traitant de sciences dentaires et médicales; elle met en outre à la disposition des dentistes de toutes les parties du Canada (par la poste) des périodiques et d'autres imprimés de toutes sortes. Les dons faits au Fonds de la bibliothèque sont déductibles de l'impôt sur le revenu.

## **Etude du rôle et des problèmes de la profession dentaire sous divers plans d'assurance-santé et d'hospitalisation**

*par Pierre Surprenant, D.D.S., Montréal, P. Qué.*

La carie dentaire est un problème de santé. Le problème de la santé dentaire est complexe. On ne saurait régler ce problème par des solutions simplistes, car il a des répercussions dans plusieurs domaines: économique, éducationnel, professionnel.

C'est un problème socio-économique qui dépasse les cadres d'une évaluation systématique, justement à cause de la complexité des multiples facteurs qui contribuent à le créer.

Le coût des honoraires versés annuellement aux Etats-Unis pour services dentaires est estimé à \$2,400,000,000. Au Canada, il en coûte approximativement \$90,000,000 pour rencontrer environ le quart des besoins.<sup>1</sup>

En plus d'être un problème économique, la santé dentaire est aussi un problème social: 95 à 98 pour cent de la population en sont victimes à un moment ou à l'autre de la vie. L'âge n'est pas un facteur puisque les statistiques démontrent que dès l'âge de trois ans, 80 pour cent des enfants en sont atteints; à 50 ans, 60 pour cent des individus sont porteurs d'une prothèse complète, soit du haut ou du bas, soit des deux.<sup>1</sup>

Sans aucun doute, le problème est quasi universel et atteint son acuité parmi les populations où la civilisation semble être la plus avancée. Cette acuité varie toutefois selon les différents facteurs qui contribuent à la produire: le milieu ou l'environnement, les habitudes d'hygiène et d'alimentation, la possibilité de traite-

ments et la conception individuelle ou communautaire de l'importance et de la nécessité de surveillance dentaire.

Dans la province de Québec, l'équilibre dentiste-patients 1:3,712 environ est tout à fait disproportionné, puisque l'enquête sur la dentisterie aux Etats-Unis a révélé que pour rencontrer les besoins actuels, un équilibre de 1:1,000 est nécessaire.<sup>2</sup>

Pour pouvoir atténuer le problème par le traitement seulement, il faudrait que la profession puisse concentrer tous ses efforts à corriger l'incidence de la carie chez tous les enfants, en commençant par le groupe de trois ans, tout en maintenant le contrôle par des examens périodiques et des traitements subséquents découlant de l'évolution chronique de la carie dentaire.

La profession est actuellement aux prises avec l'accumulation des défauts chez l'adulte, et on ne peut honnêtement exiger ou s'attendre à ce qu'elle délaisse celui-ci pour se consacrer presque entièrement à limiter son travail au traitement de l'enfant.

Le problème de la santé dentaire est donc en déséquilibre total avec les possibilités de traitements par l'ensemble de la profession.

La profession dentaire a donc un rôle à jouer et des problèmes à solutionner devant les divers plans d'assurance-santé et d'hospitalisation qui hantent le cerveau de notre population et par ricochet, de notre gouvernement. Le problème est grave tant du côté santé dentaire que du côté socio-économique et professionnel. La profession dentaire se doit d'émettre des idées précises. Il faut considérer les

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Travail qui a valu à son auteur le premier prix au Concours 1963 du Mémorial de Guerre de l'Association dentaire canadienne.



TABLEAU 1 Date d'inauguration de l'assurance-santé dans divers pays du monde.<sup>3</sup>

| Dates | Pays       | Extension                                | Dates | Pays                   | Extension                                                        |
|-------|------------|------------------------------------------|-------|------------------------|------------------------------------------------------------------|
| 1883  | Allemagne  | tous salariés industriels                | 1922  | Japon                  | tous salariés industriels                                        |
| 1885  | Allemagne  | tous salariés commerciaux                | 1922  | Russie                 | tous salariés                                                    |
| 1886  | Allemagne  | tous salariés agricoles                  | 1922  | Serbie                 | tous salariés                                                    |
| 1886  | Autriche   | tous salariés industriels et commerciaux | 1924  | Chili                  | tous salariés                                                    |
| 1899  | Allemagne  | tous salariés                            | 1928  | France                 | tous salariés                                                    |
| 1901  | Luxembourg | tous salariés industriels et commerciaux | 1928  | Italie                 | tous salariés commerciaux                                        |
| 1909  | Norvège    | tous salariés industriels                | 1929  | Hollande               | tous salariés commerciaux                                        |
| 1910  | Serbie     | tous salariés industriels                | 1935  | Espagne                | tous salariés                                                    |
| 1911  | Angleterre | tous salariés                            | 1936  | Pérou                  | tous salariés                                                    |
| 1911  | Irlande    | tous salariés                            | 1939  | Japon                  | tous salariés: les employés d'entreprise de 10 personnes ou plus |
| 1912  | Estonie    | tous salariés industriels                | 1939  | Roumanie               | tous salariés à faible revenu                                    |
| 1912  | Lettonie   | tous salariés industriels                | 1940  | Vénézuéla              | tous salariés industriels et commerciaux                         |
| 1912  | Roumanie   | tous salariés industriels                | 1941  | Costa Rica             | tous salariés                                                    |
| 1912  | Russie     | tous salariés industriels                | 1942  | Espagne                | tous salariés à faible revenu                                    |
| 1913  | Hollande   | tous salariés industriels et commerciaux | 1943  | Mexique                | tous salariés à faible revenu                                    |
| 1914  | Suisse     | tous salariés industriels et commerciaux | 1943  | Paraguay               | tous salariés à faible revenu                                    |
| 1915  | Norvège    | tous salariés industriels et commerciaux | 1946  | Suède                  | tous citoyens                                                    |
| 1918  | Bulgarie   | tous salariés industriels et commerciaux | 1946  | Yougoslavie            | tous salariés                                                    |
| 1919  | Portugal   | tous salariés                            | 1947  | Colombie               | tous salariés                                                    |
| 1920  | Pologne    | tous salariés                            | 1947  | République Dominicaine | tous les ouvriers                                                |
| 1922  | Grèce      | tous salariés industriels et commerciaux | 1949  | Bolivie                | tous salariés                                                    |

plans d'assurance-santé déjà existant outre-mer. Il faut étudier le bien-fondé d'un plan d'assurance-santé ici même au Canada pour les salariés et les problèmes qu'il occasionne à la profession. Enfin, la profession se doit de conseiller, avant toute application d'un plan quelconque, certaines mesures préventives et éducationnelles pour promouvoir la santé dentaire.

#### SYSTÈMES D'ASSURANCE-SANTÉ

Presque tous les pays modernes ont maintenant adopté un plan quelconque d'assurance-santé; ce sont surtout au cours de ces dernières années que les plans se sont multipliés ou se sont élargis

suffisamment pour devenir des plans publics, car plusieurs pays, comme l'Angleterre, ont passé par différentes étapes avant d'arriver à un plan couvrant au complet les dépenses médico-dentaires des citoyens.

A notre époque, ce n'est plus l'existence d'un système d'assurance-santé qui met un pays en vedette mais plutôt l'absence d'un tel système. Trois pays ne jouissent pas d'un plan d'assurance-santé; ce sont le Canada, les Etats-Unis, et l'Union Sud Africaine.

Plusieurs prétendent que ces plans d'assurance-santé obligatoires sont de date récente, et que seuls les pays totalitaires les ont mis de l'avant. Pour réfuter ces prétentions, il suffit de citer quelques dates et quelques noms de pays relatifs

à l'inauguration de l'assurance-santé (tableau 1). Bien que la sécurité sociale, dans son ensemble, soit une réalité nouvelle, elle a connu des applications qui remontent à plus d'un demi-siècle.

A la lecture de ces statistiques,<sup>3</sup> il est évident que tous ont pensé d'abord aux salariés de l'industrie. Mais quels sont les principaux types de plans? On peut les classer selon le mode de paiement au praticien et sa liberté: ce sont l'Union Soviétique, la Grande-Bretagne et la France.<sup>4</sup>

En Russie, tous les citoyens reçoivent les soins dentaires aux frais de l'Etat dans des cliniques. Les dentistes sont des fonctionnaires de l'Etat et ils travaillent un nombre minimum d'heures par jour.

Depuis 1948, les enfants reçoivent obligatoirement des applications topiques de fluor; c'est un fait qui mérite d'être noté.<sup>4</sup>

Le dentiste est donc un fonctionnaire à plein temps et presque aucune pratique privée n'est permise. "C'est la véritable étatisation de la dentisterie. Pas de liberté ni chez le patient qui ne peut choisir son dentiste, ni chez le dentiste qui doit exécuter le travail qu'on lui impose. Si cette philosophie de la vie professionnelle peut donner des résultats dans des pays totalitaires, elle serait certainement peu goûtée dans nos pays libres."<sup>4</sup>

Le régime anglais est plus démocratique. Le dentiste a l'entière liberté d'être membre du Service. Mais la plupart des dentistes se voient obligés d'y adhérer. En fait, seulement 5 pour cent demeurent en pratique privée indépendante.

Vice-versa, le patient choisit librement son dentiste à condition qu'il soit membre du Service.

Les travaux effectués en bouche et les honoraires sont évalués par un comité régional des estimations. Les travaux de routine nécessitent aucune approbation avant de les entreprendre. Cependant, les traitements dispendieux peuvent être acceptés, rejetés ou modifiés par le comité régional des estimations. Sous le titre de traitements dispendieux entrent: les ex-

tractions suivies du port d'un appareil de prothèse, confection d'une prothèse, traitements de périodontie, de chirurgie buccale et d'orthodontie, enfin toutes restaurations en or.

Le dentiste est libre de travailler le nombre d'heures qu'il veut, et de recevoir le nombre de patients qu'il désire.

Le gouvernement, par son comité exécutif, paie les honoraires sous présentation par le dentiste des actes opératoires effectués sur un patient. Le dentiste est donc restreint à remplir à tout propos des devis et des réclamations, alors que sa mission est tout autre.

Tôt, ce système provoqua des mécontentements. La gratuité totale amena les gens en foule aux portes des dentistes. La pression était si intense que le travail sérieux était impossible.

La compétence des dentistes est mise en doute par la perte du droit personnel de prescription. L'ambition de ceux-ci est d'autant diminuée.

"De cette brève étude du système anglais, il faut retenir pour le classer: que le dentiste est payé à l'acte par l'Etat: ce n'est pas un salarié comme en Russie mais il doit pour se faire payer, traiter directement avec ce que l'on appelle un tiers payant. Le tiers payant, l'Etat, se glisse entre le patient et le praticien. Il fixe le tarif, il devient rapidement exigeant sur l'utilité du traitement, contrôle et finit par limiter la liberté d'exercice du dentiste."<sup>4</sup>

Examinons maintenant la "Sécurité Sociale française." Le système, à mon avis, est celui qui respecte le plus les droits du citoyen et les droits du professionnel.

Après 34 ans d'application, le plan respecte encore la liberté du choix du praticien, la liberté de prescription, le secret professionnel et le paiement direct des honoraires par le malade.

Le plan s'adresse obligatoirement à tous les salariés. Le paiement des soins se fait grâce à des caisses d'Assurance régionales alimentées par des prestations payées par les salariés et leurs patrons.<sup>5</sup>

Lorsqu'un assuré sent le besoin de se

faire traiter, il demande à la Caisse régionale une feuille spéciale, dite de traitement. Le traitement terminé, le patient paie son dentiste et se fait rembourser par sa Caisse régionale 80 pour cent du coût du traitement en présentant sa feuille de traitement acquittée. Le patient absorbe donc 20 pour cent des honoraires. "C'est ce qu'on appelle le ticket modérateur."<sup>5</sup> L'individu conserve donc une certaine responsabilité personnelle de sa santé dentaire.

Le dentiste a très peu de paperasserie à remplir et le tiers payant est éliminé. Une vaste nomenclature détermine le tarif, grâce à une évaluation à l'acte chirurgical. Lorsqu'il s'agit de traitements dispendieux, le patient, lui-même, doit en faire la demande à sa Caisse régionale en présentant une feuille de recommandation signée par son dentiste. C'est ainsi que le droit de prescription est mieux respecté.

"Cette formule ne transforme pas le dentiste en un fonctionnaire plus ou moins déguisé et les rapports entre praticien et patient respectent deux sentiments fondamentaux, confiance et liberté, qui sont indispensables au maintien de la conscience professionnelle."<sup>5</sup>

En résumé, cette brève étude des systèmes d'outremer nous montre trois dentistes, lequel préféreriez-vous être? Un dentiste à salaire sous un régime d'étatisation? Un dentiste sous un système de gratuité totale, payé par le gouvernement suivant un tarif basé à l'acte opératoire? Enfin, un dentiste libre qui perçoit ses honoraires de son patient, lequel se fait rembourser les 4/5 par son assurance d'Etat?

En tant que dentistes de la province de Québec, c'est à nous de choisir devant l'éventualité d'un plan d'assurance-santé au pays.

Il faut noter que quatre provinces canadiennes appliquent déjà différents systèmes d'assurance-santé: ce sont la Colombie britannique, la Saskatchewan, le Manitoba et Terre-Neuve. Ce n'est là qu'un signe entre plusieurs de la faveur que cette idée trouve auprès de tous les

Canadiens. De partout, aujourd'hui, arrivent aux autorités des revendications en ce sens. Pour ne mentionner qu'un groupe, mais qui compte plus d'un million de membres, rappelons que le Congrès du travail du Canada lançait récemment un appel à tous ses membres, les invitant à réclamer l'instauration au Canada d'un système global d'assurance-santé.

Presque toutes les pressions qui s'exercent aujourd'hui sont faites auprès du gouvernement fédéral, et ce, pour des raisons fort compréhensibles. La première est sans doute que trop de nos gouvernements provinciaux ont catégoriquement refusé de s'intéresser au problème d'une façon directe. La seconde, et non la moindre, c'est que le gouvernement central lui-même a lancé quelques amorces, laissant entendre que les associations canadiennes devaient s'adresser à Ottawa pour que le nouveau régime de protection de la santé favorise également tous les Canadiens, sans distinction. Ces avances ont porté fruit et tous les yeux, aujourd'hui, se tournent vers le fédéral.

#### FINANCEMENT

Certains se posent le problème du financement fédéro-provincial d'un tel système. Trois principaux systèmes de financement sont en usage. La Grande-Bretagne, la Nouvelle-Zélande et la Suède utilisent la méthode de taxation progressive; il s'agit, dans ce cas, strictement de fonds gouvernementaux. La Norvège et le Danemark possèdent un système de contributions tripartites: assurés, employeurs et gouvernements, central et local. Les fonds gouvernementaux n'ont aucune place dans les systèmes en opération en France et en Allemagne; les plans sont financés par les contributions des assurés et des employeurs. En France, les contributions sont de 16 pour cent du salaire, 6 pour cent payés par l'employé et 10 pour cent par l'employeur.

L'on fait grand état au pays des assurances facultatives contre les frais médicaux-dentaires et hospitaliers. L'idée



nous vient de nos voisins les Américains. Certains prétendent que ce système de protection est efficace et suffit au besoin, qu'avec le temps il rendra inutile l'assurance-santé obligatoire. Il est incontestable que ces assurances facultatives, offertes par des compagnies commerciales ou par des entreprises sans but lucratif, ont connu depuis quelques années un essor considérable et que plusieurs d'entre elles méritent d'être citées en exemple. Il va sans dire que les exemples ne peuvent être choisis que parmi les sociétés sans but lucratif.

On comprend que pour se protéger, dans le but d'assurer la continuité de leurs propres services, les associations sans but lucratif doivent imposer des restrictions aux services de santé qu'ils offrent à leurs membres. L'expérience d'au moins 20 années d'assurance-santé a prouvé, à travers le monde, qu'il est impossible à quelque organisme privé que ce soit de garantir à ses adhérents, une protection tout à fait plénière en ce domaine. De leur côté, les compagnies privées incorporent à tous leurs contrats des restrictions qui rendent ces derniers moins intéressants quand ils ne sont pas nettement prohibitifs. En plus des nombreuses restrictions, il est bon de signaler au passage les périodes d'attente, les limites d'âge, les preuves de bonne santé, et même le maxima de revenus.

Lors de l'enquête sur la maladie au Canada, 1950 - 1951, un peu plus d'un quart seulement des unités familiales au Canada ont vu le dentiste.<sup>6</sup>

A travers le monde, les systèmes d'assurance-santé obligatoire ont tous pensé d'abord aux salariés de l'industrie. Il va de soi que les législateurs aient fait porter leurs efforts de ce côté, car c'est l'ère de l'industrie qui a fait naître la sécurité sociale proprement dite.

#### RÉPERCUSSION SUR L'EXERCICE DENTAIRE

Si nous songeons au problème particulier de la province de Québec, nous avons des raisons particulièrement sérieuses de nous inquiéter, puisque l'industrialisation

a progressé chez nous à une allure sans précédent. En effet, nous n'avons pas connu l'évolution graduelle de pays comme l'Angleterre, la France, l'Italie et même les Etats-Unis. Il n'a fallu aux grandes compagnies qu'un quart de siècle pour envahir notre province, pour y instaurer le règne de la grande industrie et révolutionner les cadres de notre société.

Nous avons vu, noms à l'appui, que la grande majorité des pays civilisés jouissent de plans d'assurance-santé.

Nous avons vu également que la grande majorité des Canadiens sent le besoin d'un plan semblable. Nous savons que l'opinion publique chez nous réclame une telle mesure parce qu'elle seule peut répondre à un besoin réel et urgent.

Convaincus qu'elle s'impose et que rien n'en peut empêcher l'avènement, nous nous sentons partis à en discuter les modalités professionnelles, plutôt que de continuer à en établir le bien-fondé.

Beaucoup de dentistes soulèvent le problème des relations personnelles avec le patient. Selon eux, à l'avènement de l'assurance-santé obligatoire, nous assisterons à une rupture des relations personnelles et nécessaires entre le patient et son dentiste. Je dirais non, à condition que le dentiste ait la liberté de décider et de prescrire le genre de traitement qu'il juge à propos selon le cas.

D'autres prétendent que l'assurance-santé obligatoire équivaut à l'étatisation. A mon avis, il existe entre les deux des différences de nature.

Sous l'étatisation proprement dite, tous les dentistes deviendraient des fonctionnaires de l'Etat, tandis que le système d'assurance-santé obligatoire, préconisé chez les pays non-totalitaires, restreint l'intervention de l'Etat à la seule coordination des efforts. En effet, comme nous le verrons plus loin, tous les dentistes doivent demeurer libres de choisir leurs patients, comme chaque patient devra demeurer libre de choisir son dentiste.

D'autres dentistes reprennent l'argument de leurs confrères britanniques qui, en 1909, luttèrent contre une législation

d'assistance publique en alléguant que la gratuité des services médicaux-dentaires saperaient les fondements même de l'exercice privé de la dentisterie.

La pratique privée, c'est une forme de l'exercice de la chirurgie dentaire qui possède sûrement des grands mérites mais qui n'est pas intangible et qu'on doit subordonner aux besoins humains. Si, pour des raisons d'ordre scientifique, plusieurs dentistes ont eux-mêmes décidé d'abandonner la pratique privée; si par ailleurs des besoins humains nouveaux exigent que la pratique privée, tout en demeurant, s'adapte à des circonstances modifiées, il ne peut être question de s'opposer à cette évolution nécessaire. Le dentiste est là pour son patient et non le patient pour son dentiste.

Il ne faut pas l'oublier, le but de l'assurance-santé est d'abord positif: permettre à tous ceux qui le veulent et non plus seulement à ceux qui le peuvent, de s'armer contre les maladies dentaires.

Il faut aussi écarter une erreur qui se glisse dans l'esprit de nos confrères; c'est celle qui consiste à voir dans l'assurance-santé une mesure dirigée contre les honoraires trop élevés. S'il s'agissait seulement d'une mesure de contrôle, elle prendrait une forme très différente. L'objectif premier de l'assurance-santé n'est pas de réduire les honoraires des dentistes mais de procurer au patient les moyens d'y faire face.

Du reste, les citoyens même s'ils protestent occasionnellement contre certains honoraires, se rendent compte que les frais accrus dépendent d'abord d'une qualité de soins également supérieure et à laquelle il n'est pas question de renoncer.

Le système de rémunération des services rendus pose certains problèmes. Les dentistes ne doivent pas accepter de devenir des salariés. Le mode de rémunération le plus acceptable serait sans doute le paiement par acte chirurgical, d'après des barèmes établis par ententes conjointes entre l'administration du plan et le Collège des chirurgiens dentistes provincial, par exemple.

Je le répète, lequel des trois dentistes du début aimerions-nous être?

La décentralisation de l'administration et le libre choix du dentiste sont des caractéristiques usuelles des plans en opération. Mais outre ces caractéristiques usuelles et les quelques objections courantes de la part des dentistes, je tiens, du point de vue autonomie professionnelle, à exiger certaines des recommandations que la Société dentaire de Montréal donnait dans son mémoire soumis à la Commission royale d'enquête sur les services de santé du Canada en avril 1963.

Elle se prononce, notons-le, en faveur d'un système d'assurance-santé dentaire mais, à certaines conditions:

1. "Les dentistes devront continuer à prodiguer leurs services dans leur cabinet privé."<sup>7</sup> Il n'est nullement question d'essayer d'instaurer un système avec des cliniques régionales comme en Russie.

2. "Les dentistes, à leur choix, adhèrent ou non au plan."<sup>7</sup> Nous sommes en pays démocratique et pour une fois nous pourrions suivre notre mère adoptive, la Grande-Bretagne.

3. "Les patients paieraient leurs traitements et seraient remboursés par le plan d'assurance en vigueur."<sup>7</sup> Le dentiste a un devoir d'état à accomplir, celui de soigner les maladies buccales; il ne faut donc pas le déroger de son rôle en lui imposant quotidiennement un travail supplémentaire de bureau: imitons tout simplement le système français.

4. "Le plan serait administré par une corporation mise sur pied par la profession sur une base provinciale; cette corporation serait administrée par un conseil de direction comptant des profanes et des dentistes."<sup>7</sup> C'est d'ailleurs une des caractéristiques usuelles des plans en opération dans les pays non-totalitaires.

5. "Enfin, les services prodigués par les spécialistes seraient reconnus que si les patients leur sont référés par des omnipraticiens."<sup>7</sup>

Même toutes ces conditions respectées, actuellement il y a un déséquilibre entre le problème de la santé dentaire et les possibilités de traitement par l'ensemble

de la profession. "On devrait, si possible, commencer par tous les enfants de trois à six ans, en gardant dans le plan, chaque année, les enfants qui ont vieilli d'un an."<sup>8</sup>

#### MESURES ACCESSOIRES

Sommairement nous avons vu que la profession dentaire ne peut échapper à l'avènement d'un plan d'assurance-santé et qu'elle tient à conserver son intégrité professionnelle.

Nous verrons maintenant qu'il faut d'abord aider la profession dentaire à s'armer convenablement pour faire face un jour ou l'autre à un tel plan.

Pour ce faire, certaines mesures préventives et éducationnelles sont nécessaires. Un personnel auxiliaire adéquat solutionnerait peut-être, en second lieu, le manque actuel de dentiste au pays.

Il nous faut recourir à l'hygiène publique. L'application de la fluoruration de l'eau de tous les aqueducs où la teneur de fluor n'atteint pas une partie par un million de parties d'eau, est nécessaire. Cette mesure atteint tout le monde, riches comme pauvres. Aux Etats-Unis, depuis au-delà de vingt ans, des recherches ont prouvé la valeur de cette mesure d'hygiène publique. L'incidence de la carie dentaire, par l'application d'une telle mesure préventive, diminuerait d'environ 60 pour cent. "Cette mesure équivaldrait à tripler le nombre actuel de dentistes disponibles."<sup>8</sup>

Il faut aussi éduquer les gens sur les bienfaits d'une bonne santé dentaire. Trop longtemps, les dentistes eux-mêmes ont négligé cet aspect de la dentisterie devant l'urgence des soins. Actuellement, le pas est fait en ce sens: il ne se passe pas une semaine sans que les journaux, la radio ou la télévision ne renseignent les gens sur un sujet quelconque d'hygiène dentaire.

C'est au gouvernement que revient la tâche, sous la direction de dentistes hygiénistes, d'organiser des campagnes d'hygiène dentaire. Il faut montrer les avantages de la conservation des dents

saines, et faire connaître les moyens préventifs à utiliser contre la carie dentaire. Le jour où la majeure partie de la population comprendra les bienfaits de son organe dentaire, c'est ce jour-là seulement que l'instauration d'un système d'assurance-santé général vaudra la peine d'être mis définitivement sur pied.

"Il est impossible, au Canada, d'organiser un système complet de traitements pour toutes les classes de la population; il y a trop de monde qui ont besoin de traitements et la proportion des dentistes en rapport avec la population est trop faible."<sup>9</sup>

C'est pourquoi, un des premiers objectifs du dentiste, c'est celui d'accroître son rendement en cabinet. Il lui faut un personnel auxiliaire compétent à qui il confierait certaines tâches qui ne nécessitent pas de formation professionnelle. Des études aux Etats-Unis ont montré qu'un dentiste assisté d'une hygiéniste et d'une assistante, doublait sa productivité. Le bien-fondé des auxiliaires n'est pas à faire, il s'agit de mettre sur pied des écoles d'hygiénistes dentaires et d'assistantes dentaires.

Les écoles d'hygiénistes dentaires pourraient, comme aux Etats-Unis et dans certaines provinces du Canada, être fondées au sein des facultés dentaires de nos universités. C'est au gouvernement de distribuer les octrois nécessaires.

L'entraînement des assistantes dentaires pose un certain problème, car actuellement ce sont les dentistes en cabinet qui perdent leur temps à les entraîner. Leur entraînement pourrait se donner dans les hôpitaux, au même titre que les "garde-bébés" par exemple; car j'espère qu'avec l'avènement de l'assurance-santé et d'hospitalisation, les dentistes auront l'autorisation d'hospitaliser leurs patients et de les traiter à l'hôpital au moins lorsqu'il s'agit de chirurgie quelque peu extensive et surtout lorsqu'il s'agit d'employer l'anesthésie générale. Des dispensaires dentaires devraient donc exister dans chaque hôpital et c'est dans ces départements dentaires que les assistantes



dentaires pourraient être adéquatement formées.

Le moment est venu de mettre un point à cette brève étude du rôle et des problèmes de la profession face à l'assurance-santé. Je n'avais évidemment pas la prétention d'épuiser le sujet dans les quelques points du présent mémoire. Il faut y voir plutôt une série de considérations sur les aspects principaux du problème. La discussion qui s'amorce présentement appellera sans doute, dans un avenir prochain, des travaux complémentaires et des études plus approfondies et plus détaillées.

L'avènement de l'assurance-santé est évident, car la nouvelle notion de la sécurité sociale fait tranquillement son petit bonhomme de chemin. La sécurité sociale n'est plus confondue avec l'assistance publique. Certains dentistes voudraient que l'état provincial n'entre pas dans le champ de l'assurance sociale, sous prétexte qu'il appartient exclusivement à l'individu de voir à sa propre protection. De là, disent-ils, l'assurance sera possible à ceux qui ont les moyens et l'Etat accordera l'assistance aux indigents. Ce n'est pas là, à mon avis, respecter les droits de la personne elle-même, mais protéger la richesse des individus fortunés. Dans cette perspective, l'Etat ne cherche plus à coordonner les efforts de la multitude pour assurer le bien-être de tous, mais il se contente de fournir une aide souvent humiliante aux individus nécessiteux.

La sécurité sociale comporte le problème du plein emploi, ceux du chômage, des salaires, de l'habitation et de la maladie. Et son champ s'agrandit chaque jour, non pas en raison de l'indigence croissante des individus qui composent la société, mais en raison proportionnelle des développements d'une civilisation industrialisée à l'extrême et de la nécessité de distribuer plus équitablement le revenu national.

Comme on le voit, par la sécurité sociale, il ne s'agit pas d'abord de venir en aide à l'infirme, au chômeur, au sans-travail ou à quelques autres déshérités de la société. L'accent ne doit pas être mis

sur la négative mais porté au contraire sur des éléments positifs et je ne crains pas d'affirmer que la sécurité sociale doit chercher davantage à créer le plein emploi qu'à pallier au chômage, davantage à créer les foyers habitables qu'à secourir les sans-foyers et, dans le cas qui nous occupe, s'appliquer davantage à maintenir la population en santé qu'à secourir le malade.

Devant cette nouvelle notion de la sécurité sociale, je ne crains pas pour la profession dentaire. Elle est en mesure d'établir ses positions puisqu'elle tient à son intégrité professionnelle.

Je ne pose donc plus la question: Lequel des trois dentistes du début aimerions-nous être? Tous le savent.

#### SUMMARY

*The great disparity between dental needs and resources poses a major problem in face of a growing trend toward health insurance. Nearly every modern country, with the exception of Canada, the United States and the Union of South Africa, has adopted some system of national health insurance (Table 1). These systems are of three varieties: (1) the Russian system where the dentist is a full-time employee of the state; (2) the British National Health Service where the participating private dental practitioner bills a government-sponsored committee for services rendered to patients; and (3) the French social security system where the patient is re-imbursed by an insurance fund for 80 per cent of the cost of treatment. Methods of financing national health insurance also fall into three categories: (1) fully tax-supported plans as in Great Britain, New Zealand and Sweden; (2) tripartite contributory plans, where contributions are derived from the beneficiaries, employers and government, as in Denmark; and (3) bipartite contributory plans, based on contributions from employers and employees only, as in France and Germany.*

Voluntary health insurance plans have achieved their most notable popularity in the United States. There, plans are available through commercial insurance carriers as well as through non-profit service corporations (Blue Cross, Blue Shield). Various limitations are incorporated to maintain these plans on a solvent basis.

Recognizing the trend toward a system of health insurance in this country, various organizations of the dental profession, such as the Canadian Dental Association and La Société dentaire de Montréal, made appropriate recommendations in briefs submitted to the Royal Commission on Health Services.

Any effective system of health insurance which includes the provision of dental care must be supported by greatly intensified public health measures—fluoridation, public education in dental health practices—as well as the fullest possible use of auxiliary dental personnel.

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## résumés

# DISPARITION DE L'HYPERSENSIBILITÉ DE LA DENTINE: RAPPORT PRÉLIMINAIRE SUR UN DENTIFRICE CONTENANT DU STRONTIUM.

Harry Skurnik. J. Periodont. 34:183, 1963.

L'auteur a entrepris des recherches cliniques sur un nouveau dentifrice qui peut s'utiliser couramment et qui contient du chlorure de strontium à 10 pour cent pour traiter l'hypersensibilité de la dent.

Les patients qui ont servi à ces recherches étaient des personnes ordinaires; la raison de leur choix était simplement qu'elles souffraient d'hypersensibilité den-

taire, soit aux irritants thermiques, chimiques ou tactiles.

La réaction au traitement était d'ordinaire rapportée ou notée entre trois et cinq jours après le premier usage; certains patients prenaient jusqu'à deux semaines pour remarquer un changement.

Quand l'hypersensibilité n'était pas complètement disparue, après deux mois d'emploi du dentifrice, le patient était considéré comme ne répondant pas au médicament.

L'efficacité du traitement se jugeait par les impressions du patient à ses visites au cabinet et par sa réaction ou réflexe à des provocations exercées sur les dents (jet d'air, instrumentation, etc.). 93 pour

cent des 80 patients qui ont utilisé ce dentifrice ont noté un soulagement remarquable.

Le dentifrice n'est pas toxique, ni irritant et ne provoque aucune allergie; il a des qualités convenables de nettoyage et de moussage, de sorte que les patients peuvent l'utiliser couramment, pour remplacer celui dont ils se servent habituellement. L'emploi d'un dentifrice contenant des ions de strontium, à cause de son efficacité et de sa simplicité, semble être une mesure éminemment utile.

#### EFFET DE L'EAU NATURELLEMENT FLUORÉE SUR LA CARIE DENTAIRE CHEZ LES ADULTES

H. R. Englander et D. A. Wallace.  
*Pub. Health Rep.* 77:887, 1962.

Des examens dentaires cliniques entrepris chez 896 blancs qui demeuraient depuis toujours à Aurora, Illinois et de 935 résidents permanents de Rockford, Illinois, âgés de 18 à 59 ans, ont montré que les habitants d'Aurora, qui avaient consommé de l'eau naturellement fluorée à un taux de 1 ppm durant une moyenne de 32.6 années, souffraient beaucoup moins de carie. Les habitants de Rockford avaient bu de l'eau sans fluor durant une moyenne de 32.0 années.

La moyenne d'âge des citoyens d'Aurora était de 33.6; celle de ceux de Rockford, 33.1. Aucun d'eux n'avait quitté sa ville respective pour plus de cinq ans, après 18 ans. Les individus des deux villes

étaient à peu près identiques quant au sexe, aux conditions socio-économiques, à l'éducation et aux habitudes d'hygiène et d'alimentation.

Les citoyens d'Aurora avaient une moyenne de 10 DMF pour les dents et 22 DMF pour les faces des dents; ceux de Rockford, une moyenne de 17 DMF pour les dents et 43 DMF pour les faces des dents. Ainsi, l'examen a montré que les citoyens d'Aurora souffraient moins de la carie dans une proportion oscillant entre 40 et 50 pour cent. Cette différence aurait pu être plus considérable, si on avait pris un échantillonnage au hasard. Les individus qui avaient moins de 10 dents étaient mis de côté et, de ce fait, plus d'individus ont été refusés à Rockford qu'à Aurora. On a remarqué qu'il y avait plus de personnes édentées à Rockford qu'à Aurora. A cause de ce facteur, un calcul rapide a apporté un léger changement dans l'ampleur de la différence existant dans les deux villes dans le taux DMF. Il est difficile d'apprécier exactement ce facteur pour chacun des groupes d'âge.

Les citoyens de Rockford avaient une moyenne de caries non traitées deux ou trois fois plus considérable que celle de ceux d'Aurora, quoiqu'environ 70 pour cent de toutes les faces DMF étaient obturées chez les individus des deux villes. Les caries des citoyens d'Aurora se logaient surtout dans les points et fissures. Les dents antérieures du maxillaire supérieur des citoyens d'Aurora étaient remarquablement indemnes de carie dans une proportion significative.

Cette étude fournit une autre preuve que l'incidence très basse de la carie chez les enfants qui boivent de l'eau fluorée à un taux de 1 ppm, depuis leur naissance, se continue dans leur vie adulte.

*Délibérations de l'A.D.C.* • Les *Délibérations* de l'Association dentaire canadienne renferment des comptes rendus du travail de ses conseils, de ses comités et de ses bureaux. On conseille à tous les dentistes du Canada de lire ces *Délibérations* qui sont publiées après la réunion annuelle du Conseil des Gouverneurs.



## La réunion du Conseil des Gouverneurs

On peut dire que le Conseil des Gouverneurs de l'Association dentaire canadienne est le plus haut tribunal de la profession dentaire au Canada. L'étude qu'elle entreprend des problèmes actuels de la dentisterie en notre pays et les politiques qu'elle élabore à leur sujet font généralement loi dans toutes les provinces.

Le Conseil des Gouverneurs, composé des représentants des Collèges des chirurgiens dentistes canadiens, prend des décisions au niveau national et suggère — objectivement — des lignes de conduite dans différents secteurs aux membres corporatifs qui le constituent.

Son rôle est surtout consultatif puisque, d'après l'Acte de l'Amérique britannique du nord, les domaines de la santé et de l'éducation sont du ressort provincial. Sa participation active ne touche qu'aux questions exclusivement fédérales.

On peut donc sentir le pouls de la dentisterie canadienne en étudiant les sujets qui font l'objet des préoccupations et des discussions du Conseil des Gouverneurs de l'A.D.C.

Les questions qui ont suscité le plus grand intérêt, au cours des assises de la réunion de 1963 des Gouverneurs, qui eut lieu à Toronto en mai, ont abordé les secteurs suivants:

1. *Les services auxiliaires.* — Les programmes de formation des auxiliaires de la profession — techniciens, hygiénistes, assistantes — s'élaborent avec prudence. Seule la voie tracée pour les hygiénistes semble claire. Les autres, celles des techniciens et des assistantes, sont plus tortueuses, mais elles se dessinent dans certaines provinces où les écoles d'arts et

métiers s'intéressent aux techniciens et où des groupements de dentistes essaient à entraîner en groupe des assistantes.

2. *Les services dentaires fédéraux.* — Les dentistes à l'emploi des divers ministères fédéraux cherchaient depuis longtemps, comme leurs collègues des Etats-Unis, à se faire représenter au sein du Conseil des Gouverneurs. Après un long débat, le Conseil a acquiescé à leur requête, malgré l'opposition d'un certain groupe qui prétendait — avec une certaine logique — que ces confrères étaient déjà représentés par leurs collèges provinciaux respectifs à qui ils paient une cotisation annuelle.

3. *Plans de services dentaires.* — De plus en plus, la population du Canada désire participer à des systèmes d'assurance-groupe pour se protéger contre les éventualités de paiements pour des traitements dentaires.

Les compagnies d'assurances s'intéressent davantage à ce nouveau domaine de la protection dentaire et des syndicats ouvriers ont déjà mis sur pied des plans qui assument les frais des soins dentaires.

La pierre d'achoppement de ces systèmes semble être la question des honoraires. Aussi l'A.D.C. recommande aux provinces d'établir des échelles d'honoraires qui serviraient de base pour discuter ce problème avec les intéressés. Un vent socialisant souffle sur tous les services de santé!

4. *Enseignement.* — L'enseignement dentaire est à la veille de se trouver à un tournant dans sa formule classique. La technique perd du terrain aux dépens des sciences de base, du diagnostic, des recherches et de la prévention. Le Conseil

d'enseignement, dans ses études, laisse transpirer cette nouvelle orientation.

5. *Services dentaires hospitaliers.*—Les dentistes sont à la veille d'avoir droit de cité dans les hôpitaux. Le Conseil canadien de l'accréditation des hôpitaux a ouvert ses portes à un représentant officiel de la profession dentaire et cet organisme se montre favorable à l'établissement de services dentaires adéquats dans tous les hôpitaux qu'il accrédite.

De nombreuses autres activités montrent que l'Association dentaire canadienne est bien vivante et qu'elle progresse à un rythme encourageant. Ses finances sont en bon état et elle a commencé des modifications à son secrétariat à Toronto qui augmenteront considérablement l'espace dont elle a besoin pour loger tout son personnel.

Le nombre des dentistes s'accroît lente-

ment, mais il reste bien en deçà des exigences de la population qui grandit sans cesse. Une campagne de recrutement qui a des ramifications dans chacune des provinces est amorcée et elle commence à porter des fruits.

On peut résumer la situation actuelle de la dentisterie canadienne en disant, à la lumière des délibérations qui se sont déroulées dernièrement à Toronto, qu'elle jouit d'une prospérité sans précédent, mais qu'elle fera bientôt face à des problèmes considérables: directives des législateurs aux professions qui s'occupent de la santé des populations et ressources déficientes en personnel.

La lecture des *Délibérations 1963* de l'Association dentaire canadienne, qui paraîtront bientôt, fournit une multitude de renseignements sur ses activités.

G. de M.

## les actualités dentaires

### Trois mille personnes assistent au congrès national

La foule qui s'est pressée au congrès conjoint de l'Association dentaire canadienne et de l'Association dentaire d'Ontario a surpassé tous les records établis dans le passé. Presque 3,000 personnes s'y sont inscrites. Des chiffres qui ne sont pas encore complets montrent qu'environ 1,500 dentistes, 430 épouses, 75 hygiénistes, 170 assistants dentaires, 95 étudiants et 500 exposants et leur personnel y étaient présents. Un programme scientifique et social bien équilibré ont tenu en haleine les congressistes, depuis le festival de dimanche soir jusqu'au bal du président de mercredi soir. Les disponibilités de l'Hôtel Royal York ont été taxées à l'extrême limite.

Environ 90 dentistes ont assisté, du 15 mai au 18 mai, à la 62<sup>e</sup> réunion annuelle du Con-

seil des Gouverneurs tenue à l'Hôtel Royal York. Les séances d'affaires, sous la présidence du docteur M. V. J. Keenan, ont été menées avec célérité et sérieux.

Les quatre sections de l'Association dentaire canadienne ont eu leur réunion particulière en même temps que le congrès national. La Société canadienne de dentisterie pour les enfants a tenu son assemblée le 18 mai et 120 de ses membres, venant de toutes les parties du Canada, y assistaient. La Société canadienne de chirurgie buccale a réuni ses membres lundi et mardi pour des réunions scientifiques et d'affaires. Les orthodontistes ont passé presque trois jours à des réunions conjointes de la Société canadienne d'orthodontie et la Société d'ortho-

dontie d'Ontario. L'Académie canadienne de périodontologie a eu des réunions, mardi.

Les principaux conférenciers furent les docteurs, Ulf Posselt, de Malmo, Suède, et John Mosteller, de Mobile, Alabama; ils ont aussi présenté des cliniques de groupes. En plus des cliniciens canadiens de marque, on remarquait Milton Rode, de Philadelphie et Ralph Boos, de Minneapolis. John Prichard, de Fort Worth, Texas, était en charge de cliniques spéciales qui furent présentées à la télévision toute une journée. Un colloque patronisé et organisé par l'Association dentaire canadienne sur "L'évolution de la conception des services de santé par rapport à l'Etat", groupait un médecin, le docteur Arthur Kelly, un dentiste, le docteur McIntosh et un avocat, Me Ian Outerbridge.

#### L'A.D.C. A UN NOUVEAU PRÉSIDENT: LE DOCTEUR JAMES ZIMMERMAN

Le docteur James Zimmerman, qui exerce sa profession à Calgary, depuis 1924 est devenu le 43<sup>e</sup> président de l'Association dentaire canadienne. Un ancien président de l'A.D.C., le docteur John W. Clay, lui aussi de Calgary, a présidé l'intronisation du nouveau président au cours de la réunion générale de l'Association.

Né en Russie, le docteur Zimmerman émigra au Canada, où il termina ses études secondaires à l'école normale de Winnipeg. Il fit son cours dentaire à l'Université de Toronto. En 1921, il établit son cabinet à Tober, Alberta, avant de se fixer à Calgary. Il fut président de la Société dentaire de Calgary et du district et de l'Association dentaire d'Alberta. Il représente l'Alberta au Conseil des Gouverneurs depuis 1955. Il est membre de l'American College of Dentists. Le docteur Zimmerman s'occupe aussi d'organisations profanes, car il a été président du B'nai B'rith de Calgary. Selon certains membres du Conseil Exécutif de l'A.D.C., il est aussi un joueur de bridge émérite.

#### LE DOCTEUR LANGLOIS DEVIENT LE PRÉSIDENT-ÉLU DE L'A.D.C.

Le docteur Rémy Langlois, de Québec, a été élu président-élu de l'Association dentaire canadienne à sa réunion de mai, à Toronto.

Le docteur Langlois, qui est un des trois représentants de la province de Québec au Conseil des Gouverneurs, est membre depuis quelques années du Conseil Exécutif de l'A.D.C. Il est un ancien président du Collège des chirurgiens dentistes de la province de Québec.

#### LE DOCTEUR MUNSIE, NOUVEAU MEMBRE DU CONSEIL EXÉCUTIF

Le Conseil des Gouverneurs de l'A.D.C. a élu le docteur Wesley P. Munsie, de Vancouver, membre du Conseil Exécutif pour un mandat de trois ans. Le docteur Munsie a joué un rôle actif dans les organisations dentaires au niveau local, provincial et national. Il est présentement président du Collège des chirurgiens dentistes de la Colombie britannique. Le Conseil Exécutif de l'Association dentaire canadienne se compose ainsi: président: James Zimmerman, Calgary; président-sortant-de-charge: M. V. J. Keenan, Sudbury; président-élu: R. Langlois, Québec; membres: P. S. Christie, Halifax; J. P. Coupland, Ottawa; W. J. Riley, Winnipeg et Wesley P. Munsie, Vancouver, G. M. Dewis, qui est trésorier, fait partie ex-officio du Conseil.

#### LES PROGRÈS EN COMMUNICA- TIONS ET EN ÉDUCATION RESPONSABLES DE L'INTÉRÊT DU PUBLIC POUR LES QUESTIONS DE SANTÉ

Un médecin et un dentiste ont déclaré devant 500 dentistes, au cours du congrès, que les deux principaux facteurs des changements qui se produisent dans les services de santé sont les progrès qui se réalisent à un rythme accéléré dans les sciences et l'enseignement et la dissémination de nouvelles au sujet de questions de santé pour renseigner le public. Ces deux conférenciers et un avocat ont adressé la parole au cours d'un colloque tenu au congrès de l'A.D.C., le 20 mai dernier sur "L'évolution de la conception des services de santé par rapport à l'Etat."

Les conférenciers étaient le docteur Arthur D. Kelly, secrétaire général de l'Association médicale canadienne, le docteur William G. McIntosh, ancien président de l'Association dentaire canadienne, et M. Ian W. Outerbridge, un avocat de Toronto versé dans les questions médico-légales. M. Outerbridge a conseillé aux membres de renforcer leurs organismes professionnels. Il vaut mieux, dit-il, sacrifier certaines libertés à nos organismes professionnels et garder ainsi notre entière liberté plutôt que de laisser des influences extérieures s'en emparer. Le public, continua-t-il, recherche la certitude de jouir d'une bonne santé. La société, pour atteindre ce but, n'exige pas l'enchaînement des professions de santé, mais elle y recourra, si elle se rend compte que ce moyen est le seul qui pourra lui procurer la sécurité qu'elle recherche. Les professions, grâce à leurs organismes indépendants, ont la possi-



bilité de répondre aux exigences de la population. Il faut répondre à ces exigences, a réitéré M. Outerbridge: "C'est urgent," a-t-il dit.

Le programme social comprenait une soirée de théâtre suivie d'une tournée de cabaret, un cocktail, un buffet froid, une danse et un banquet.

Une exposition scientifique et une exposition commerciale comblaient les loisirs entre les activités scientifiques et sociales.

## Le Canada

### 8e CONGRÈS DE L'ASSOCIATION DENTAIRE DE LA PROVINCE DE QUÉBEC

Le 8e congrès de l'Association dentaire de la province de Québec a eu lieu, les 23, 24 et 25 mai dernier, à l'Hôtel Queen Elizabeth, de Montréal.

Au delà de 300 dentistes et 200 de leurs épouses s'étaient inscrits à ce congrès qui s'est avéré le plus réussi dans l'histoire des congrès de l'Association.

Les congressistes ont suivi avec grand intérêt le programme scientifique et les activités sociales qui terminaient les journées.

Le programme scientifique comprenait des cliniques de table, des conférences, des films et une clinique télévisée où un groupe de cliniciens de l'Université de Montréal présentait des techniques pour traiter la périodontite: gingivectomie, équilibration d'occlusion et gingivoplastie.

## Hygiène publique

### LA VILLE D'ATIKOKAN ADOpte LA FLUORATION

La municipalité d'Atikokan, située dans le nord-ouest de l'Ontario, a commencé à fluorer l'eau de son aqueduc, le 27 mai dernier. Cette ville compte 6000 habitants.

### LA FLUORATION AUX ÉTATS-UNIS

Plus de 43 millions d'Américains vivant dans 2,302 villes utilisent de l'eau fluorée, d'après le U.S. Public Health Service. Quelques 100 villes ont commencé à fluorer leur eau en 1962.



Au 8e congrès de l'Association dentaire de la province de Québec: de g. à d. Gérard de Montigny, comité scientifique du congrès; J. H. Johnson, conférencier; Robert Le Blanc, registraire du Collège des chirurgiens-dentistes de la province de Québec; M. V. J. Keenan, président de l'Association dentaire canadienne; J. Chamard, délégué de la province de Québec à l'A.D.C.; Jean-Paul Lussier, président du Conseil d'enseignement dentaire de l'A.D.C.

Q.

## Que fait le dentiste

- ) Renseigne-t-il le patient?
- ) Démontre-t-il son habilité professionnelle et ses connaissances?
- ) Essaie-t-il de vaincre la peur du patient?
- ) Fait-il le "premier pas" afin d'obtenir un choix facile et précis des couleurs des dents?

R.

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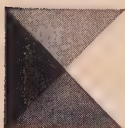
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(Each 8 drops yield 1 mg. fluoride ion.)

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1. J.A.D.A. 62:466 (April) 1961. 2. J.A.M.A. 180:94 (April 7) 1962.



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Ref. 1. Truesdail Laboratories, Inc. Report Aug. 18, 1961.

2. Patrick D. Toto, D.D.S., M.S., Malburn Wilderman, D.D.S., M.S. and Charles Reeves, D.D.S.  
Clinical Evaluation of an Oxygen Liberating Preparation Used Adjunctively in Root Planning.  
Journal of Periodontology. Vol. 31. Jan. 1960

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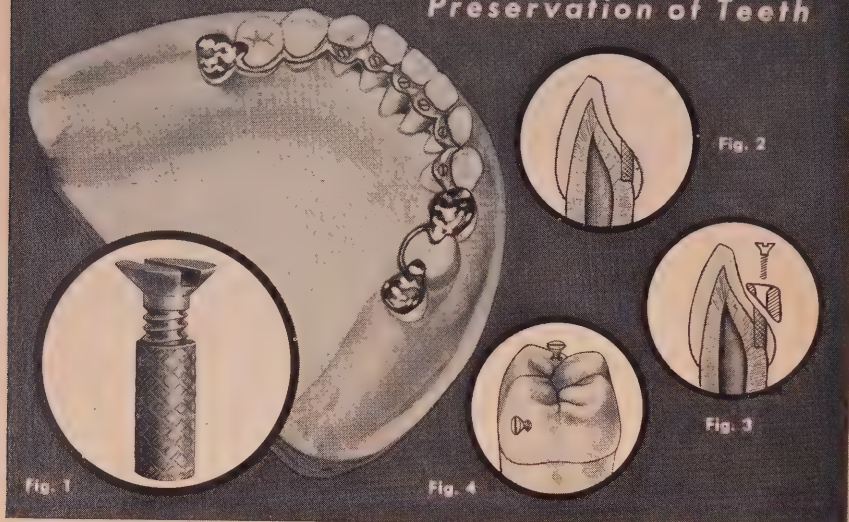
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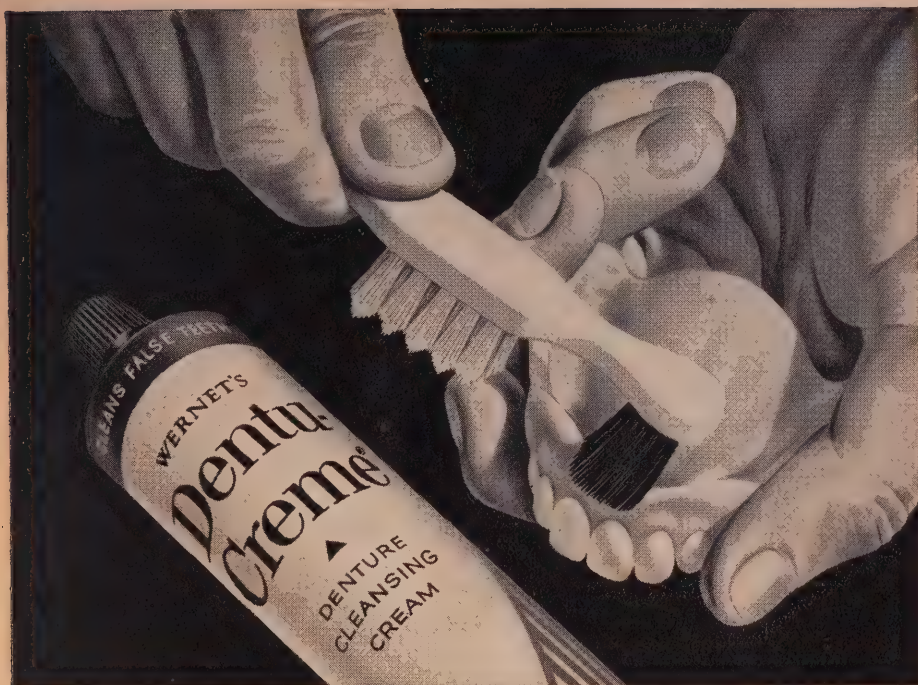
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*J. of the Can. Dental Assn.*, Vol. 27, No. 9, September 1961, pp. 576-584.

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**ROLAND GENDRON, D.D.S.**—"L'antibiothérapie en périodontie".

*J. of the Can. Dental Assn.*, Vol. 27, No. 1, January 1961, pp. 62-65.

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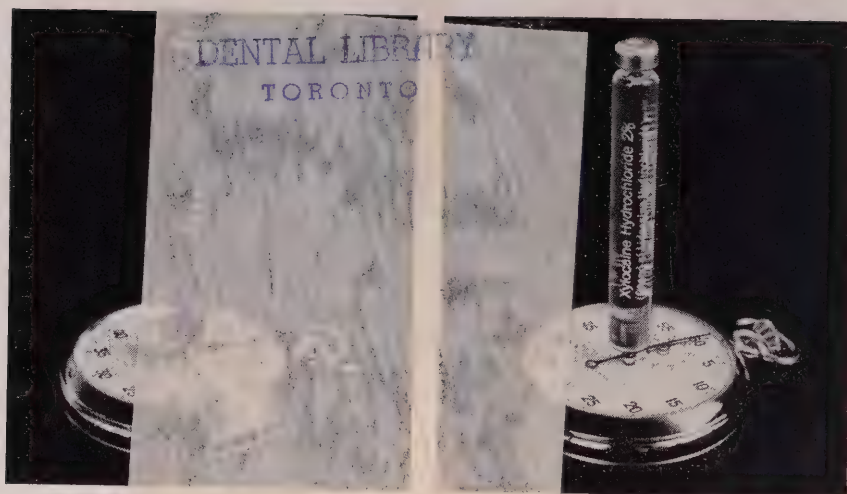
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(1) Pigman, W.; Elliott, H. W., Jr., and Laffre, R. O.; J. Dent. Res. 31:627, 1952. (2) Francis, M. D., and Meckel, A. H.; J. Dent. Res.



A. ADULT MOLAR BRUSHED WITH CONTROL DENTIFRICE  
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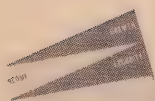
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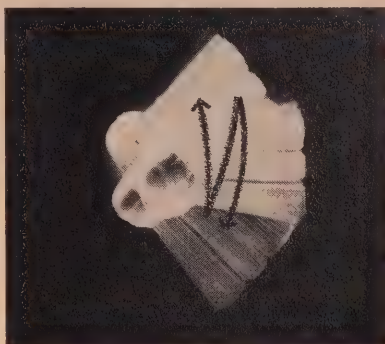
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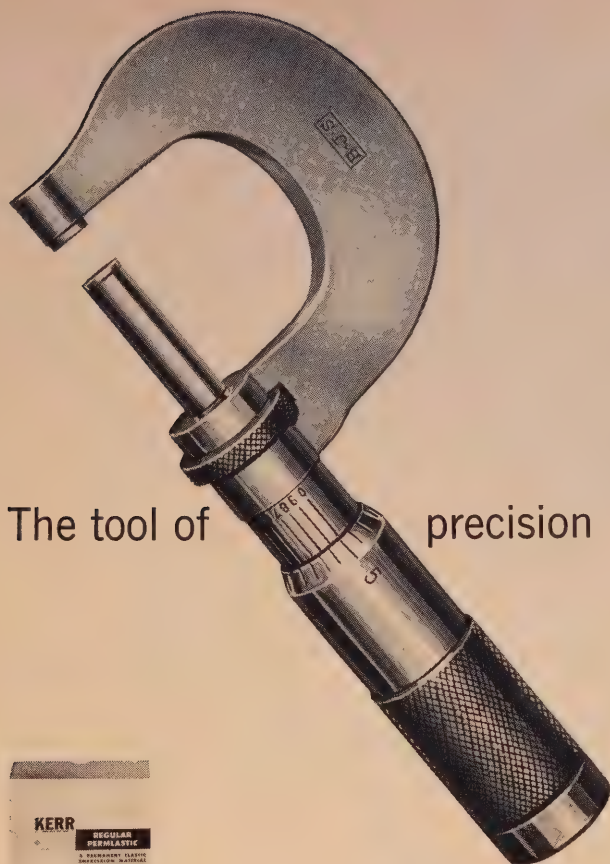


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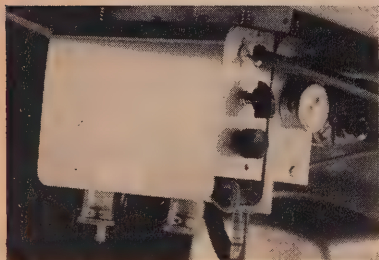
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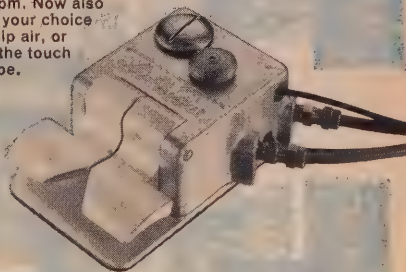
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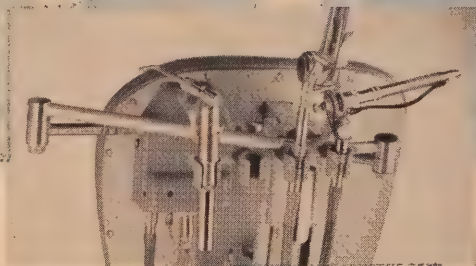


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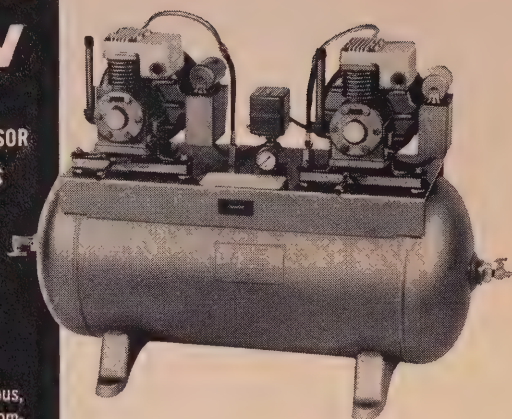
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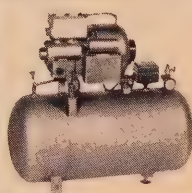
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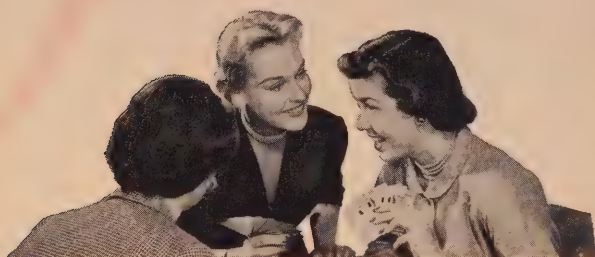
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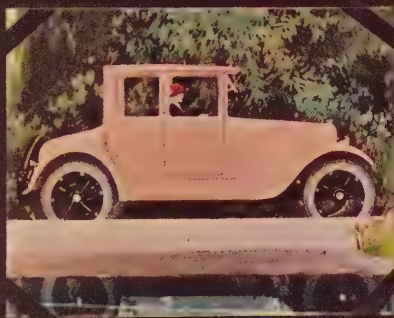
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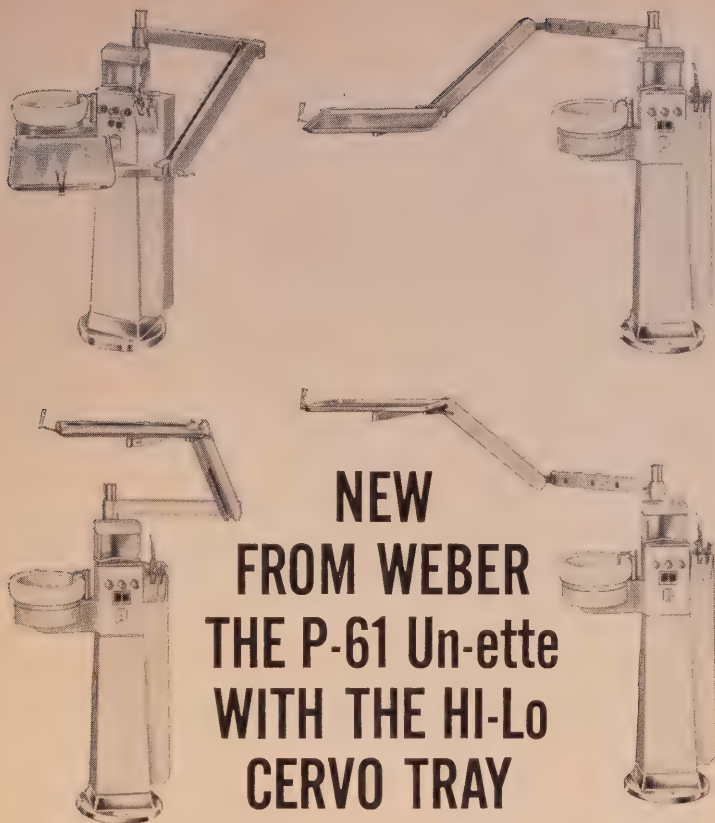
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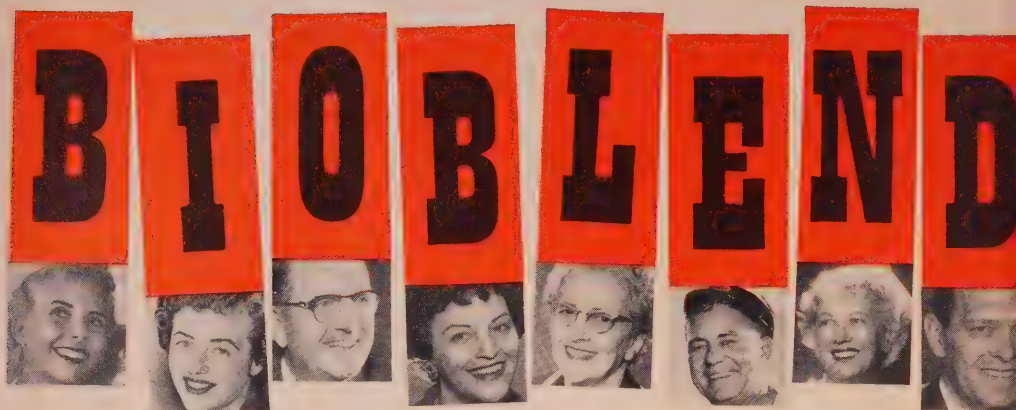
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Published monthly for the Canadian Dental Association by Gordon V. Allen Publications, 95 King Street East, Suite 205, Toronto, Ontario. Telephone 368-6251.

Gordon V. Allen, Advertising Manager.

Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

Authorized as Second Class Mail, Post Office Department, Ottawa, and for payment of postage in cash. All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month.

All expressions of opinion and statement of supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association.

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*The Canadian Dental Association*

Volume 29

Number 9

Toronto

September 1963

JOURNAL

*L'Association Dentaire Canadienne*

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### **Changing patterns in health services**

There is hardly a Canadian dentist nowadays who is not aware of growing intervention by the state in the provision of health services. He fears the spectre of intrusion within the sphere of his practice. Thought of the consequences to his patients and to himself makes him profoundly uneasy. He realizes that the political spotlight is focused on the health professions as never before. But the real reason for these developments often escapes him. Accustomed as he is by training and practice to working as an individual, the average dentist has great difficulty in projecting himself beyond the immediate needs of his own patients. Yet without this perception, his response to implied threats is more often emotional than objective. And if he consequently loses the sympathy of the public, his actions are turned against him; he is characterized as one who blindly opposes the wishes of society.

What does society really want from us? It seeks "the enjoyment of the highest attainable standard of health (as) one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition." These simple words appear in the preamble to the Constitution of the World Health Organization of which Canada is a founding member. They express a deep human yearning for protection against one of the

three hazards of living—unemployment, illness and old age—over which the individual has little control. The concept of health as everyone's inherent right is one which no government and no group can afford to oppose, for to do so would be political suicide.

In the quest for the security of guaranteed good health, society seeks a new partnership between the public and the health professions. For professional men this means adjusting to new relationships and accepting new responsibilities. If they respond gracefully, it could open up a whole new era of untold opportunity and satisfaction for those who minister to the health needs of the nation.

Those who attended the national convention of the Canadian Dental Association in Toronto heard a physician, a dentist and a lawyer describe the risks, the challenges and the opportunities which dentists face. These papers were delivered at the 1963 C.D.A. panel presentation on socio-economic aspects of dentistry, a regular feature of each national convention. In presenting the three papers in this issue, the Journal again draws the reader's attention to this important aspect of dentistry. The Journal also welcomes constructive comments relative to these articles with a view to improving the future usefulness of such annual presentations to the profession.

## THE CHANGING PATTERN OF HEALTH SERVICES WITHIN THE FRAMEWORK OF THE BODY POLITIC: A MEDICAL VIEWPOINT

*A. D. Kelly,\* M.B., Toronto, Ontario*

The assigned topic for today's discussion is 'The Changing Pattern of Health Services within the Framework of the Body Politic.'

Many influences are continuously at work to change the pattern of health services. In the dynamic world in which we live the rate of change has accelerated beyond the wildest imaginations of your professional forefathers and mine and it may be said with some conviction that the advances made in the current century have been greater than those recorded in the previous history of the human race.

Broad statements such as this should be made, however, with caution and with a degree of humility because there are certain verities which underlie our vaunted progress which did not originate with us, the health practitioners of today, but which had their origins in the very beginnings of human society when individuals emerged in the capacity of advisers and healers to their contemporaries.

In my own profession of medicine, we tend to classify such basic considerations as the essentials of the art of medicine. They relate in large measure to the rules which should, and still do, govern the

\*General Secretary, The Canadian Medical Association.



practice of the healing arts. These considerations relate to the dignity of the individual and the duty of the doctor to promote the welfare of his patient.

Under the heading of 'Duties of Physicians to their Patients,' the Code of Ethics of the Canadian Medical Association states in part as follows:

"For the honourable physician the first consideration will always be the welfare of the sick. On his conscience rests the comfort, the health and the lives of those under his care. To each he gives his utmost in science, and art, and human helpfulness. Their confidences are safe in his keeping, except in those rare instances when the safe-guarding of society imposes a higher law . . . .

"He does not multiply costs without need, nor raise needless fears, nor allay fears without full consideration; even when he cannot cure he will alleviate and be counsellor and friend.

"It is a special duty for one who stands guard over the lives of men to keep his art and science in good repair, to enlarge and refresh his knowledge constantly and to give his patients treatment which is not only sympathetic but the best possible in the circumstances . . . ."

In discussions such as this, therefore, when we are endeavouring to assess the changing patterns of health services, let us not lose sight of the basis for our existence as socially useful professions.

Having said so, it is necessary to consider the factors which operate today to change the methods and the techniques by which we carry out our role in health services.

The first factor which should be mentioned is the progress of scientific discovery and the means by which we seek to apply new knowledge for the benefit of our patients. Research and investigation in many fields of science have progressed so rapidly that we, the beneficiaries of the work of many minds, are hard put to it to assimilate and to evaluate the worth of these developments. Education for the health professions has been profoundly affected by the scientific explosion. The emergence of specialists is a direct consequence of these developments and the proliferation of many auxiliary

technical skills has followed. Multiplication of scientific publications is evidence of the need to disseminate and apply new information. So overwhelming is the flow of material that we have a duty to attempt to evaluate its immediate worth and, without developing an attitude of mind which is resistant, it is nevertheless necessary to apply the 'sceptis scientifica' lest we be persuaded to abandon the tried and true methods of yesterday for the latest discovery of the moment.

Closely related to scientific development as a factor in the changing pattern which we are considering is the phenomenal spread of public information on matters of health. This development is, in my opinion, a predominantly favourable one which produces a climate of acceptance of the new procedures which become available and an intelligent appreciation of the benefits which the application of science can bestow. Such acceptance and appreciation is, however, sometimes unrealistic in that it is predominantly uncritical and lacking in understanding of the limitations of our resources. One effect of this dissemination of information is to produce a demand which is readily transposed to the expression of a "right" to enjoy all the wonderful benefits which are portrayed through every medium of communication.

Many other influences contribute to the pattern of health services and are capable of changing that pattern rapidly and radically. For example, the development of the hospital as we know it today is a long departure from the institution which not so long ago was a place regarded as the last resort. Then people regarded admission to hospital as the equivalent of a death sentence; today almost all Canadian babies are born in hospital and we fully insured persons have to curb our demand for expensive hospital beds to avoid the nuisance of handling minor illnesses at home.

Transportation and communication, affluence and poverty, styles and preferences, as well as the presence or absence of a sense of responsibility, all contribute

to our use and abuse of health services. There is little which is static in the pattern. We should recognize that we are part of a shifting design of considerable complexity.

I have felt it necessary to portray for you to this point some of my thoughts on the general considerations which influence the changing pattern of health services in our time. I now approach with some trepidation the second phase of the assigned topic "within the framework of the body politic." Health services operate not for the benefit of those who devote their lives to their maintenance and improvement but for the benefit of the body politic if by that phrase we mean the public, our fellow citizens and our patients. The body politic is all of us within the boundaries of the political jurisdictions which have been established—the nation, the province and the community. The infinite variations of the bodies politic represented by the countries of the world need not concern us today and I propose to confine most of my remarks to our body politic, Canada and its provinces.

There are many functions in the field of health services which our governments, our representatives in the body politic, can more effectively carry out than we as individuals can do for ourselves. If you will consider for a moment those services by which urban life today is tolerable or even possible—pure water, wholesome food, the disposal of waste products and the control of communicable diseases which formerly ravaged us—you will agree that collective action within the body politic is the basis for much of our vaunted civilization. The health services which lend themselves to such collective action are predominantly preventive in character and it should be a matter of pride to us all that within the body politic we have used the powers of government so effectively.

It is a dictum which is accepted as basic to the practice of public health that no widespread disease has ever been eradicated by treating affected individu-

als alone. Treating individuals is, however, very necessary and this constitutes the daily task of the practitioners of your profession and mine. Many examples may be cited to show the extremely effective application of collective and individual methods, and in the Canadian context, I need only mention the encouraging progress which has been made in the control of pulmonary tuberculosis. I recently returned from Geneva where I had the honour of participating in the XVIth Assembly of the World Health Organization as a member of the Canadian delegation. This experience provided the opportunity of seeing in action the body politic in its widest global sense, and the collective accomplishment of the nations impressed me. The control and even the eradication of malaria in certain parts of the world is an example of the application of scientific procedures of a preventive nature which have produced great benefits for the peoples of the world.

At the risk of appearing to be dogmatic I would say that the activities of the body politic in the provision of personal health services impresses me less favourably. I spent two weeks in May of this year rubbing shoulders with representatives of countries, most of which have inaugurated under governmental auspices a system of medical services insurance. In far too many instances the body politic has become the body political and the controls exercised over the system of providing and paying for personal health services have produced results which I would not recommend for my fellow-Canadians.

In this country we have had several unique opportunities during the past two years to examine our health services and to provide some guidelines for the ultimate establishment of public policy. The first and most important opportunity has been that provided by the appointment of the Royal Commission on Health Services. Rarely, if ever, has there been a more exhaustive study of a nation's health needs and resources; every shade of opinion has been presented, and research

studies under the Commission's own auspices have been undertaken extensively. I am certainly not in any position to anticipate the findings and recommendations of the Royal Commission. I am confident, however, that they will be based on information and opinion such as never before have been assembled and that health services' planning will be materially aided.

The body politic in Canada has experienced two general elections within the past year and it is clear that the degree of political party interest in health insurance and health service varies between wide limits. The issue did not emerge as a decisive one in the recent election campaigns but it would be folly to underestimate the potential appeal of the subject. As a member of the medical profession who is greatly concerned that the changing pattern of our health services will contribute to progressive improvement in all our endeavours, I can only express the hope that your profession and mine will recognize that we are part of a constantly changing kaleidoscopic pattern and that we will do our best to guide and encourage these changes which will contribute to the health of our body politic.

There is a tendency for many of our fellow-citizens to apply the inexact and misleading term 'medicare' to health services in general. If the word has any specific meaning, which I doubt, it conveys the impression of the establishment of a fund out of which may be paid the cost of the services of physicians and others involved in the rendering of personal health services. Medicare must be closely related to health insurance, and we are very familiar with the advances which have been made under voluntary auspices in applying the techniques of insurance in budgeting against the cost of illness. However, the word 'medicare' appears to go further and to convey the suggestion that financing by means of taxation and administration by an agency of government is an essential part of the concept.

Herein, in my view, lies the fallacy. I believe that there are several other aspects of our health services which are more important than the provision of medical services insurance; that they all require the attention of the custodians of authority in our body politic and that undue preoccupation with and application of public funds to this single area will handicap the well-rounded development of the best pattern of health services for Canadians.

I would be the last to deny that our government has a large part to play in fostering, encouraging and financing the advances which we perceive to be necessary. The role of government is, however, not exclusive and in many instances within our body politic a co-operative effort between official and voluntary agencies appears to produce the best results. Examples of this in education, in research and in the provision of hospital services readily come to mind, and there is a long and respectable precedent in the provision of personal health services to indigent members of our society through mechanisms partly financed by government and operated in the public interest by voluntary professional bodies.

More than twenty years ago the medical profession recognized that it had an obligation to provide the means whereby our patients, the public, could make provision for the foreseeable and unforeseeable costs of personal health services. We established, fostered and supported, under our own auspices, plans of prepaid medical care which have, on their own merits, provided increasingly comprehensive protection for the subscribers. These plans are not perfect but we have endeavoured to make them better, to correct their defects as they became evident and to remove the inadequacies of coverage not only for groups but for individuals. At the last count available to me, January 1963, the twelve medically sponsored plans, grouped nationally under the organization of Trans-Canada Medical Plans, had an enrolment slightly in excess of 4,790,000 persons. This figure does



not include the 470,000 persons in Saskatchewan who retained their membership in the two medically sponsored plans in that province which qualify as approved health agencies under the Saskatchewan Medical Care Insurance Commission. In general, it may be said that the coverage available to this large number of Canadians is comprehensive in its scope and that it substantially covers the cost of physicians' services wherever rendered.

During the period of these developments the commercial insurance industry also made great strides in enrolment and in improvement of the coverage offered. Today well over 50 per cent of Canadians have some degree of insurance protection against the hazard of illness.

We feel that healthy competition between carriers, each striving to improve its coverage, has been beneficial and that this development should be encouraged. We are well aware that we cannot attain the objective of the availability of protection for every Canadian without the aid of government and without the application of public funds. In this portion of the health services field we believe it to be a proper function of government to identify and aid our fellow citizens who cannot, from their own resources, provide for the cost of health insurance. On the other side of this picture, we do not think it proper for government to undertake to finance out of taxation the whole expense of personal health services and particularly to exercise the controls and to impose the standardization which is inherent in official agencies. There remains in our society a place for individual initiative and personal responsibility and as long as we preserve the climate for such initiative our health services will continue to improve progressively. We consider that it is unwise and unnecessary for governments to divert such a high proportion of the dollars available for health purposes into a single channel lest equally important facets of health be denied the support which we collectively should give them.

I hope that you will not interpret these words of mine as a plea for the status quo or infer that my colleagues in the medical profession are resistant to change in the pattern of health services. Most of the changes which have occurred have been the result of a disclosure of need and the application of a remedy to meet that need by doctors and laymen working together for the common good. This I suggest to you represents the best way to induce change, retaining that which is good and substituting better procedures and methods for those which are deficient or outmoded.

There are those among us who do not agree that evolutionary development does represent the preferable method and who would introduce drastic remedies to cure what they consider to be the ills of our body politic. This approach has all the appeal and all the hazards of the ministrations of the medicine man who does not comprehend, or chooses to disregard, the complexities of the patient's disability and prescribes the attractively coloured potion with assurance. Sometimes this medicine is accepted, purchased and administered. Sometimes the patient experiences benefit, particularly if his disability has not been organic. More often, however, the favourable result is not sustained and recourse is had to the less dramatic approach of the orthodox practitioner. Recent signs and symptoms in our body politic lead me to hope that the patient is responding to conservative measures and if we, as attending physicians, continue to keep our knowledge refreshed, and our energies directed towards his welfare, the prognosis for continued improvement is favourable. The recent legislation passed in Alberta and in Ontario represent to me evidence of this more conservative approach. These provinces both provide for selective aid to citizens who require total or partial help to finance medical services insurance and they both envisage multiple carriers of insurance rather than a single government agency. This, I believe, constitutes a change in health services which is prop-

erly within the role of the body politic and one which will contribute to progressive improvement in the services available to our fellow citizens.

### RÉSUMÉ

Plusieurs facteurs agissent sans cesse pour changer la conception des services de santé. Les progrès réalisés dans le domaine des recherches et les moyens utilisés pour appliquer ces nouvelles connaissances au bien-être de la population constitue un de ces facteurs. Un autre facteur qui contribue à modifier l'aspect des services de santé est intimement lié au premier: c'est la dissémination extraordinaire dans le public de renseignements se rapportant à la santé. Il s'en suit une demande considérée comme un "droit" pour jouir de tous ces bienfaits que décrivent tous les médiums d'information. D'autres facteurs exercent une influence radicale sur les services de santé et ils peuvent les modifier rapidement. Par exemple, l'hôpital, tel qu'il existe aujourd'hui, a complètement changé de ce qu'il était il n'y a pas si longtemps: autrefois on y transportait les gens à leur dernière extrémité. Aujourd'hui, grâce aux systèmes d'assurance, les hôpitaux ne peuvent plus répondre aux demandes pour des chambres les plus dispendieuses. Les facilités de transport et de communication, la congestion et la pauvreté, des modes et des engouements, de même que le sens plus ou moins fort de la responsabilité, tous ces facteurs portent le public à utiliser ou à abuser des services de santé. Tout y est en mouvement.

Les services de santé n'ont jamais été institués au bénéfice des praticiens, qui consacrent leur vie à les maintenir et à les améliorer. Ils sont destinés au bien-être du public, nos concitoyens et nos patients.

Les gouvernements peuvent prodiguer certains services de santé plus efficacement que ne le peuvent les praticiens privés. Les services qui se prêtent le mieux à la collectivité sont surtout d'ordre préventif. Mais quand il s'agit de prodiguer des soins à un individu en particulier, le rendement de l'Etat est inférieur. On ne peut pas recommander aux Canadiens des systèmes qu'ont mis en pratique plusieurs pays qui défrayent et qui prodiguent des services personnels de santé: les résultats laissent trop à désirer!

Le gouvernement ne doit pas tout contrôler. Dans plusieurs cas, une collaboration entre le gouvernement et des organismes libres semble donner le meilleur rendement. Cette coopération peut s'illustrer par l'exemple des soins aux indigents: l'Etat paie en partie les frais de ces traitements qui, dans l'intérêt du public, sont donnés librement par les organismes professionnels. Plus de 50 pour cent des citoyens de ce pays, par des plans d'assurance patronisés par la profession médicale ou par des compagnies privées, sont déjà protégés contre la maladie. Il y a place dans cet aspect des services de santé pour une ingérence gouvernementale; celle-ci pourrait déterminer et aider financièrement les citoyens qui n'ont pas de revenus suffisants pour payer les primes. Mais le gouvernement ne devrait pas financer à l'aide d'impôts les services personnels de santé de toute la population; il devrait nécessairement, pour ce faire, exercer des contrôles et imposer des standards jugés conformes par ses agences.

Il y a encore place dans notre société pour l'initiative individuelle et pour la responsabilité personnelle. Nos services de santé continueront à progresser aussi longtemps qu'ils s'effectueront dans un climat de liberté et d'initiative.

150 St. George Street

## DENTISTRY IN RELATION TO THE CHANGING PATTERN OF HEALTH SERVICES

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Education and communication are two of the most important influences affecting our way of life. As a result of marked advances in both, the man on the street is today more knowledgeable than ever before about his own environment and that of his fellowmen all around the world. He is informed within seconds of the passing of new laws, the progress of moon-rockets, or the latest medical discovery. With similar speed he can make his opinions known to governments, send directional signals to the rocket, or demand for himself the newest medical treatment.

This man, as a member of a closely interrelated society, represents a new and powerful force in our world. When organized into groups his influence is increased a hundred or a thousandfold. His recent achievements in education, communication and organization are largely responsible for the new trend of events confronting civilization today.

Small unheard-of nations of yesterday are tenaciously insisting on their rights in international bargaining; labour and other organized groups are making successful demands from government and management; those that have not are demanding from those that have; those not previously enjoying the best of medical and dental care are now expecting it as their right.

My subject, of course, has to do with this trend as it affects the provision of dental health services to the new superman—Mr. John Q. Public. Since his status has risen his demands for dental care have increased, and a new socio-economic

aspect of dentistry confronts the profession.

The realization that there is a new socio-economic side to dentistry is the most important consideration for the profession at the present time. Like any other phase of dentistry, it needs to be studied and developed. It is itself a complex mixture of many components. I propose to discuss briefly the nature of some of these components, indicate their progress, and suggest the responsibility of the profession in relation to them.

The interest in and demand for dental services have never been as great as they are today. There are, of course, many reasons for this increased demand. The affluent society in which it is our good fortune to live has more dollars to spend on health services. The higher level of education is closely associated with the increased demand for dental care. Modern means of communication and travel have made Mr. Public aware of, and put him within reach of, dental services to which he previously had no access.

A modern concept of health itself has focused more attention on dental care. "Health," according to the 1946 constitution of the World Health Organization, "is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This concept focuses attention on the degree of health. It has been influential in establishing trends in general health affairs and it has also brought emphasis to dental health as an integral component of one's well-being.

Demands for higher standards of living have had much the same effect. Good health care is now considered an essential

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part of a good standard of living and therefore, as the standard is elevated, more health services are demanded.

That good health care is now everyone's right seems to be a popular and widely accepted viewpoint. This is a relatively new attitude and it has changed the entire complexion of the provision of health services.

Our society includes several groups such as indigents, various welfare categories, the elderly, the chronically ill, marginal income groups, etc., who are not able to pay the cost of dental services. If they are to receive the care, assuming that personnel were available to provide it, how is the cost to be absorbed? Regardless of the answer to this question, or the problems involved in providing the dental personnel, modern society believes that good dental services should be available to everyone and that any obstacles to this fundamental right must be overcome.

Changes are also taking place within the profession itself that are resulting in more demand for its services. Research has greatly broadened dentistry's horizons, so that what was considered an adequate dental care program a few years ago is now looked upon as little more than emergency measures. The preventive side of practice is now being emphasized in progressive dental offices. While ultimately it is hoped that this will reduce the need for services, in the early stages it requires more time and a good deal of perseverance.

Technical improvements have made the acceptance of dental services much easier for the patient. They have been largely responsible for the removal of the fear complex which for so many years kept people out of dental offices.

Prepayment programs are relatively new in the dental field. While their full import to the practice of dentistry is hard to determine at this stage, there is no doubt that they are bringing dental care within the reach of individuals previously not able to avail themselves of it, and allowing others to have a more com-

plete service than they would otherwise be able to obtain.

Interest in dental services is being encouraged by two further major developments. One is the position now taken by labour unions in connection with health services which, of course, includes dental services. Labour groups not only state that the status quo in health care is unsatisfactory and demand the higher living standard mentioned previously, but they now also elaborate on the way in which they expect health services to be rendered to them. To illustrate, Andrew Andras, director of Legislation of the Canadian Labour Congress, said last year, during his address to the Canadian Dental Association in Vancouver, that labour wants the health plans to be comprehensive, meaning complete and full care for everyone, that presently operating prepayment plans are not good enough, that dentists and physicians should be paid on a salary basis, and that the principle of group practice should be employed. Forceful demands of this nature by large and well-organized groups place the dental profession in a new and different environment. The profession has never before had to face up to strong pressures of this kind.

The other new situation for dentistry is that created by the recent interest governments have shown in health services. Political parties are very much aware of the vote-catching popularity of government promised health measures. There is of course no guarantee that the nation's health will be improved by the promises. Nevertheless they must sound good to the majority of people because, given an opportunity to vote freely on the issue of a government-controlled health program, nowhere to date have the voters turned the proposal down. This is a most significant fact that should be kept in mind.

Let us consider now the extent to which these developments and pressures have already progressed. This audience certainly does not need to be reminded of the extensive research, the technological advances and the specialization that have

occurred within the profession itself over the last few years. Suffice it to say that these advances have so altered the practice of dentistry that not only the methods but also the philosophies of practice of yesteryear are obsolete. More emphasis is now placed on the preventive and restorative aspects than ever before. This emphasis, coupled with the effects of better education and increased purchasing power, and the pressures of a society which believes that health care is a right rather than luxury, produces demands for these improved services which, for the moment at least, exceed the profession's capacity. Tomorrow there will be other advances and new philosophies and different demands on the profession. Therefore, one of the chief responsibilities of a profession is to see that its methods are sufficiently flexible to keep the availability of its services in harmony with the latest research, technical, and social advances.

The establishment of prepaid dental care programs has been one of the major efforts in attempting to maintain this harmony. These programs are of many varieties. They include group purchase plans by employer for employees, government-supported plans for welfare recipients, plans developed and controlled by labour unions, professionally organized and controlled plans, plans sponsored by insurance companies, and many others. To date there is no uniformity as to cost, coverage, exclusions or modus operandi of the more than 150 prepaid programs presently in operation on this continent. From a small exploratory beginning some fifteen years ago they have expanded until they now serve approximately 2,000,000 Americans<sup>1</sup> and 200,000 Canadians.<sup>2</sup>

It has been predicted by the American Dental Association's Council on Dental Health that an increase in enrolment in dental prepaid programs to 15 million persons by 1970 and to 30 million by 1975 will occur in United States.<sup>3</sup> Since the utilization rate in prepaid programs tends to be relatively high, the potential de-

mand for dental services represented by these figures is staggering.

The profession's chief contribution to date in the area of prepaid plans is the establishment of dental service corporations. These corporations are the result of positive action on the part of the profession itself to meet a growing and urgent need. They are legally constituted, non-profit, administrative corporations established by provincial or state dental associations solely for the purpose of providing prepaid dental care plans to group purchasers. Service corporations offer advantages to both consumer and dentist, to the consumer group, because it is dealing with a single professional vendor and is relieved both of the responsibility of day-to-day administration of the program and of supervising quality controls; to the dentists because they control the service corporations and protect the quality of the dental plan offered, and see that the services rendered meet the highest possible standards.

The first dental service corporation was the Washington State Dental Service, formed in 1954 as a source of dental care for the International Longshoremen's Union which had set up a major dental program for children. Last January it was reported that dental service corporations are now operating in 6 states and have been established, but are not yet operating, in 10 others.<sup>4</sup>

In Canada a dental service corporation has been established in British Columbia; final details are underway for the incorporation of similar agencies in Alberta and Ontario; and other provinces are giving serious consideration to this progressive step.

It should not be inferred that the establishment of dental service corporations is the only or the final answer to the problem. They are, however, one of the newest and most promising organizations through which public assistance care, under the administration and control of the profession, may be offered to the public. Costs can be kept down by eliminating third party participation, and

if the organization is properly constituted the profession can maintain control of both administration and quality of service.

A great deal has been learned about the organization and functioning of these corporations since the first one began in 1954. There are many problems and some dangers associated with them. Realization and demonstration of the fact that the dental profession can efficiently administer its own prepayment plans, and the lessons learned from so doing are probably the main contributions in this development to date.

Other groups have also shown more than casual interest in the administration of prepaid dental programs. At least four insurance companies are either ready to negotiate dental policies in Canada, or are preparing to do so. In some instances separate dental contracts have been developed, in others dental coverage will be offered as part of an overall health insurance policy. There is every indication that the insurance companies, now statistically reinforced from dental programs that have been in operation for a few years, are keenly interested in expanding this form of coverage.

Labour unions are now bargaining for full health protection, either as a part of their contract with management or through government-supported comprehensive health schemes. None of us need be told the pressure that can be exerted by well-organized labour groups in pursuit of their demands. They have also demonstrated their ability to establish and administer health centres of their own. One of the most recent developments of this kind is the plan on the part of organized labour in Toronto to establish a health centre that would provide comprehensive medical and dental care for a minimum of 50,000 persons. The plan for this project, based on an eighteen-month study under the direction of J. E. F. Hastings at the School of Hygiene of the University of Toronto, is predicated on the principle of group practice that would bring together general

practitioners, specialists, technicians and therapists. The plan recommends that the doctors be paid salaries. It further suggests that the professions have representation on the board of directors. It is certain, however, that the administrative control would be firmly held by the sponsoring labour group.

Interest and participation of governments in the provision of health services are also rapidly gaining momentum. Public opinion is forcing health matters into the political arena. All but one political party in Canada have committed themselves to comprehensive medical and dental care programs; and the other established a Royal Commission on Health Services to study and report on the best methods of caring for this nation's health.

Only recently has evidence appeared in the press that some of the political leaders are beginning to worry about the cost of such programs. In other countries where governments have taken over the control of health services the costs have turned out to be many times what was predicted before the plans began.

We should be reminded of the outcome when the budget for a government-controlled health scheme runs out. The government then may curtail services or reduce payments to practitioners, or both. In England remuneration to dentists has already been adjusted several times since their plan began. This is in addition to a new levy from the patient of the first pound for any dental service other than the examination, which is still free.

Under systems of this type economic and administrative problems rank much higher as reasons for making adjustments to the plan than do quality of service or the health status of the nation. As a result professional enthusiasm and initiative are weakened and, from a health standpoint, the scheme can only fall far short of its real objective.

In two provinces in western Canada sufficient pressure, under the guise of making certain dental services more readily available, has already been exerted on the local governments to cause



them to pass legislation permitting personnel without dental degrees to render specified prosthetic services directly to the public. In both British Columbia and Alberta dental mechanics are now legally entitled to perform those services directly, on the authority of a certificate of oral health signed either by a physician or dentist.

Considerable evidence exists, therefore, to show that socio-economic and political environment has changed and is continuing to change, and that by one means or another some type of dental care will be made available to most of the people of Canada.

Do we, as a profession, co-operate in trying to work out the best scheme for all concerned? Or do we play the role of the indiscriminate, critical objector, and run the almost certain risk of losing the administrative control of our services and our independence, thereby becoming a part of a compulsory government-operated plan as now exists in most European countries? A few dentists urge that any change be resisted. Others seem to believe that there is nothing more the profession can do, that it might just as well carry on complacently in the accustomed pattern as long as possible and accept the position into which changing circumstances will inevitably place it. This is a defeatist attitude and a short-sighted one. There are a number of things the profession can do to strengthen its position, and to help preserve its freedom to render services of the highest quality under conditions it considers most favourable to both patient and dentist.

The first thing is, of course, to make more services available through more dental schools, more dentists and more auxiliaries. Research, education and preventive measures must have a top priority. Prepayment programs to help the modest income groups budget for dental care, and subsidies for welfare and underprivileged groups should be increased. As you know, strides have been made in each of these activities but they must be continued and expanded.

There are further steps the profession can take to help remove the threat of "state dentistry." The steps referred to here encompass the development of proper attitudes which, in my opinion, are of great importance to the future of the profession.

One definition of a profession is "a self-selected, self-disciplined group of individuals who hold themselves out to the public as possessing a special skill derived from education and training, and who are prepared to exercise that skill primarily in the interests of others."<sup>5</sup> It is quoted here to remind us that the reason, and the *only* reason, for the existence of our profession is to serve others. If we fail to make our services available, or place them beyond the reach of the public, then our status as a profession and our legal privilege of self-regulation will quickly disappear.

Knowledge, skill and attitude have been listed as the three components of professional competence. Our modern universities are doing an excellent job of endowing the new graduates with enviable competence in the knowledge and skills of dentistry. One can reasonably ask, however, if the same competence applies in the case of attitudes. There are many, both within and outside the profession, who believe that it does not.

It is one thing to know how and when to perform a dental operation and to have the technical skill to complete it. It is quite a different thing to know how to correctly relate this technical competence with the socio-economic climate of the day.

If new dental service plans are to be established so that they can operate successfully and harmoniously, the public must have implicit faith and trust in the dental profession. This can occur only as a result of the profession consistently displaying the highest standard of moral integrity. Such a standard would leave no room for selfishness, lack of consideration for others, or emphasis on monetary gain ahead of service. It stresses the need for each of us to re-evaluate and

re-emphasize our role as a 'personal' dentist and to guard jealously the time-honoured doctor-patient relationship. We need tough discipline, a toughness toward ourselves, not toward those who need and want our services.

The principle of giving service above individual advantage can, of course, be overdone. The community and the state also have responsibilities in seeing that professional services are available to the people. It is not just the responsibility of the profession. Indeed, the profession should encourage the moral responsibility of looking after one's own needs by one's own efforts. Our society so far is built on the principle that each man should stand on his own feet. To fit in with both ideas the profession must on the one hand uphold the principle of self-sufficiency when dealing with those for whom this is possible, but it must at the same time be prepared to make concessions and work out suitable measures for those who are unable to fend for themselves.

In either case more will be accomplished if the profession is known for its high moral standards and its strong dedicated organizations. This is no time for personal or private prejudices which lend discord and weakness. It is a time for constructive thinking and solid fronts. As Alan Klass has stated in his essay, *What is a Profession?* "Professional organizations thus become a bulwark against invasion of individual freedom. In a world of growing restrictions there is need for such bulwarks, a need far greater than the average man realizes."<sup>6</sup>

The idea of a dentist having obligation only to his private group of patients is another concept that is in need of revision. The opening paragraph in a recent article by the director of the Division of Health, New Zealand Department of Health states: "It may seem an overstatement, but it is [true], to say that today public health dentistry is dentistry, not just a branch of it practised by a group of quasi-socialists. That may have been the popular conception once, but it is outmoded. There is not an advanced

country in the world that does not now regard the provision of health benefits in some form or another as a community responsibility."<sup>7</sup>

This does not imply an end to the personal relationship between patient and dentist. It means that the dentist must broaden his outlook and responsibility beyond the circumference of his comfortable private practice and think more liberally of the profession's total obligation to the dental health needs of the whole community.

Consideration of dental care for the whole community leads again to the topic of government schemes and government controls. Government schemes for dental services are in operation in over 50 countries today. Most of these are tax-supported, compulsory and government-controlled, with the traditional freedom of the dentist severely curbed.

There is a usual progression of three steps leading to full government control of health services. The first is the welfare type of program for wards of the state. The second occurs when those people who are not able to assume full responsibility for their own care, but who can pay something (medical indigents), are brought into an existing government plan under some form of subsidization. The final stage exists when the balance of the population, who are quite capable of providing for themselves, are brought into the plan. The inclusion of this last group obviously gives some economic stability to the plan and is, therefore, very desirable from the government's point of view.

The point to be emphasized is that in all countries including our own there are government-supported health schemes in operation now. The difference lies only in the degree to which they have progressed. The cry of no government control is outdated. It is now a question of how much government control and how can it be most efficiently used in the best interests of all concerned.

One very worthwhile suggestion for making the dental profession aware of

the changing environment in relation to the provision of health services has recently come from several dental leaders. It concerns the establishment of departments of social dentistry within dental schools. At a conference on public health dentistry held in conjunction with the annual meeting of the American Association of Dental Schools in 1960, the topic "Why Not a Department of Social Dentistry" was discussed by four eminent dental educators. They agreed that the social aspects of dentistry are now seriously neglected in the typical dental student's education and as a result he lacks social consciousness. The panelists suggested that topics such as social and economic relations, dental economics, psychology and behavioural science, chronic disease and rehabilitation, family dentistry, social significance of dentistry and several others be given prominence in a department of social dentistry. Philip Blackerby, one of the panelists, justified their inclusion in these words: "These are the subjects which in their totality must be depended upon to develop the student's sense of social responsibility, his understanding of dentistry's role in society, and his philosophy of professional service to his patients and to his community."<sup>8</sup> If, in addition to his scientific knowledge and skill, the dentist possessed attitudes based on an understanding of subjects such as these, he would unquestionably be a more fully rounded professional man, better equipped to fulfil his responsibilities to our dynamic society.

## CONCLUSION

Independence, according to many sociologists, can be dangerous. Early last February President De Gaulle, when he destroyed the Brussels negotiations on the European Common Market, made a stand for European independence against the North Atlantic Trading Alliance. Current events reporters and modern day historians predict that this was a very dangerous decision because it is

recognized today that in national and international affairs we are not independent; we are interdependent. President Kennedy expressed this view when, addressing the Canadian Parliament in 1961, he said "Geography has made us neighbours, history has made us friends, economics has made us partners and necessity has made us allies . . ."

It seems that these same principles are applicable to the dental profession and its new environment. Dentistry has been an independent profession. Some independence is necessary for a profession just as it is for young people who, on reaching a certain time in life, need to stand on their own feet in order to make the transition from dependent children to independent young men and women. This transition is necessary and good, but it is also dangerous. It is only when these young people learn to apply this new independence to an interdependent society that they know what true freedom really is. When we establish a balanced and healthy relationship of interdependence we escape the dangerous consequences of false independence and find a new freedom.

Dentistry, I submit, has profited by its independence. The time has, however, arrived when, because of other developments, it must establish itself in a new role of interdependency. This need not, and should not, be a move in the direction of socialism—but rather an application of selected principles of applied sociology.

If dentistry can make this adjustment, if the right decisions can be made, if we are strong but realistic, if we have foresight and integrity, a new freedom will be opened up to the profession, presenting challenges, opportunities for service, and rewards of which we have never before dreamed.

## RÉSUMÉ

*On croit aujourd'hui que chacun doit jouir d'une bonne santé dentaire et qu'il faut éliminer tout obstacle à ce droit fon-*



damental. Deux groupes prônent cette philosophie: les syndicats et les partis politiques.

La profession a comme responsabilité de rendre son comportement assez souple pour que ses services soient en harmonie avec les données les plus récentes des recherches, des techniques et de la sociologie. Un des principaux moyens d'atteindre cette harmonie consiste dans l'établissement de plans pré-payés de services dentaires. La profession peut jouer un rôle important dans ce domaine en constituant des corporations de services dentaires. Celles-ci sont des corporations administratives, sans but lucratif, légalement constituées par les associations dentaires provinciales, dans le but de faciliter à des groupes de personnes des traitements dentaires pré-payés. La Colombie britannique compte une de ces corporations et l'Ontario et l'Alberta songent à en établir. La profession dentaire, si elle réussit à réaliser et à démontrer qu'elle peut administrer efficacement ses propres plans d'assurance, apportera ainsi une contribution notoire à la solution des problèmes actuels.

La profession peut accomplir beaucoup pour renforcer ses positions et sauvegarder sa liberté d'action, en prodiguant des services de la meilleure qualité dans des conditions qu'elle considère les plus favorables pour le patient et pour le dentiste. Le premier pas consiste à prodiguer plus de services en ayant un plus grand nombre de facultés dentaires, plus de dentistes et plus d'auxiliaires. La recherche, l'enseignement et la prévention doivent donc jouir de la première priorité. La profession doit aussi favoriser la multiplication des plans d'assurance pour les segments de la population à faibles revenus et des subventions pour les assistés d'Etat et les groupes handicapés. La profession doit surtout adopter une attitude

réaliste face au climat socio-économique contemporain. Le dentiste doit élargir ses horizons et assumer des responsabilités qui dépassent l'environnement confortable de sa pratique privée; il doit penser en termes plus vastes de cette immense obligation qu'a la profession toute entière envers les nécessités dentaires de toute la population.

La dentisterie est une profession indépendante; elle a besoin de cette autonomie comme les jeunes gens, rendus à une certaine époque de leur vie, doivent régler seuls leurs propres problèmes pour franchir cette étape qui les libère d'une certaine sujétion vers l'âge adulte. Cette transition a du bon et elle est nécessaire; par ailleurs, elle est pleine d'embûches. C'est quand ces jeunes gens apprennent à marier cette indépendance aux obligations sociales qu'ils en goûtent la vraie valeur. Une profession échappe aux conséquences d'une indépendance factice et retrouve une nouvelle liberté, quand elle établit des relations saines et équilibrées d'interdépendance. La profession dentaire, en s'adaptant aux circonstances, se sentira réellement libre; elle accueillera avec joie les difficultés qui se présentent et elle pourra rendre des services pour lesquels elle sera récompensée à un degré insoupçonné jusqu'ici.

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RELATIONSHIP OF THE HEALTH PROFESSIONS  
TO CURRENT SOCIO-ECONOMIC CHANGES:  
THE COMPARABLE LEGAL POSITION OF PRACTITIONERS

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There is no comparison. Today, in Canada, the professions enjoy greater freedom than anywhere else in the world. The organization of the professions in self-regulating, legally constituted bodies is, in many respects, the modern counterpart of the mediaeval guilds. The characteristic features of the guilds are well known, but the essential point is that the prerogatives of the guilds then, as of the professions now, were clothed with the authority of government, both national and local.<sup>1</sup>

In Ontario, as an illustration, the Dentistry Act empowers the Board of Directors of the Royal College of Dental Surgeons of Ontario to make such by-laws as it deems necessary for the proper and better guidance, government, discipline, and regulation of the Board, College, the members of the College, and the profession of dental surgery and the carrying out of the Dentistry Act. It provides for these to be "gazetted" in the same manner as regulations under other provincial legislation. Presumably, they have all the effect of statute law unless annulled by the Lieutenant-Governor in Council.<sup>2</sup>

By statute the College, through its Board of Directors, controls admission to the profession, the training of dentists, standards of practice, apprehension of impostors and quacks, and the disciplining by suspension or cancellation of licence of its members who may be guilty of any infamous, disgraceful or improper conduct in a professional respect — including fraudulent and exorbitant charging of fees.

It is particularly significant to note that the discipline procedure is modelled after that of an inferior court of justice, including the power to compel attendance before the Disciplinary Committee by subpoena and further, that an appeal lies from its decisions to the Court of Appeal for Ontario.

The health professions exemplified by dentistry have been accorded an extraordinary degree of independence and self-government. They are virtually miniature states possessing both legislative and judicial capacity with respect to their membership. Curiously, they remain distant and obscure to most of their members. They are merely an organization that demands of them an annual licensing fee and perhaps publishes a journal, which fills their mail boxes once a month, and occasionally disciplines an errant colleague.

This, then, is the tragedy of the professions. The average professional man, by his training, is taught to form opinions. He is taught to be an individual. He is taught to be decisive and so far as is reasonable and in accordance with sound practice, to accept responsibility himself. He becomes insular in his thinking. He is inclined to ignore larger issues and concentrate only on those that affect him directly. The larger issues are left for "someone else" to solve. The fact that he is a member of a self-governing profession, and that there is no one else to solve the problems, never occurs to him.

With the present scarcity of practitioners in the dental profession, it is relatively easy for the recent graduate to establish

a clientele of patients. Within the sphere of his own practice, he is responsible to no one. He resents the intrusion of anyone into his domain. He particularly resents the intrusion or the suggestion that he possesses any responsibility beyond that owed by himself to his own patients.

The remote college is merely necessary to govern and to discipline the other members of his profession. He is completely oblivious to the fact that his individual liberty and professional freedom are at stake. It is my belief that his only hope for continued liberty and professional freedom lies in a strengthening of the professional associations and, in particular, the governing bodies of the professions.

This strengthening is not a legislative strengthening for there is ample power already possessed. It is rather a strengthening from within. It is a strengthening from an eager, resourceful and interested membership. This membership is prepared to authorize its leadership to discharge the profession's responsibilities to the society at large. More importantly, this membership is prepared to co-operate wholeheartedly with its leadership, knowing in advance that by so co-operating, its own liberty and freedom of professional conduct must of necessity be infringed. It is better that the professional man surrender some of his liberty and professional freedom to his own professional body than to have it forcibly and suddenly stripped from him and placed in the hands of an independent governmental agency subordinate to the political climate of the day.

The professional body is elected by the membership and responsible to it. If the leadership of the professional body is inadequate to the task, they can and must be replaced by the membership. While liberty and freedom may be surrendered, it is to the membership of the profession that it is surrendered, and by this device, liberty and professional freedom are preserved to the membership. If a governmental agency intervenes, whether the liberty and freedoms are removed by the

legislature or whether they are surrendered — and some would have you surrender, they are irretrievably lost both to the individual practitioner and to the profession.

You say, "hold on! Haven't you presumed that our individual liberty and professional freedom are on the block?" Have you any serious reason to believe they are not?

Consider, if you will, an act on the statute book in one of our provinces which provides that a government commission is given the exclusive power of "prescribing the arrangements to be made for payment to physicians and to other persons providing services." It is given exclusive power "for the establishing, maintaining, and altering . . . lists of persons entitled to receive payment for . . . services." It has sole power to prescribe "the rates of payment to be made . . . to physicians . . . and the method of assessing accounts." It has exclusive right to determine "the manner and form in which any other required information shall be submitted" and, of course, it has power to determine "the kind of information to be procured under any provision of (the) Act." It has exclusive authority to determine "the manner and form in which payments to physicians . . . shall be made." And it has sole authority to determine "the terms and conditions on which physicians and other persons may provide" medical care to the people of the province. The commission may make these decisions unilaterally and without any reference to the health professions. Nowhere in the legislation is there to be found any requirement for consultation with the representatives of the professions or any provision for negotiations collectively or otherwise. In all good conscience no Canadian government would countenance such a measure if applied to the members of any trade union. Such a measure would rightly be described as iniquitous, designed to promote company unionism, company domination, authoritarianism and worse. No government in Canada would dare to introduce such a



measure if it were applied to the organized labour movement.

Yet these were the iniquitous provisions of the much disputed Section 49 of Saskatchewan's Medical Care Insurance Act.<sup>3</sup>

In effect, this legislation removed the control of the profession from its professional governing body and placed it in the hands of the government-controlled commission.

Leon Trotsky is worth quoting in this context:

"In a country where the sole employer is the State, opposition means slow starvation. The old principle 'who does not work, shall not eat' has been replaced by a new one, 'who does not obey, shall not eat'."

When attempting to appraise the comparable positions of the health professions, one is struck by the parallel with the cold war — the struggle for freedom against tyranny; the struggle for the liberty of the individual against the overwhelming omnipresent State envisaged by George Orwell, and which we see partially exemplified in Soviet Russia today.

This is your comparable legal position in bold relief. The advocates of state medicine argue:

"Socialized medicine, of necessity, entails subordination of the personal needs and aspirations of the individual to those of the common good of society at large. Any theoretical objections on the grounds of a conflict of interest between these two, are ruled out by the consideration that the weal of society is the sum of the well-being of its individual members. Implicit in the practical application of social medicine, therefore, must be some curtailment of individual freedoms of both doctors and patients — an infringement that is justified by the argument that this is more of the nature of a curbing of wilful freedoms, anti-social tendencies and selfish license."<sup>4</sup>

"The goal of medicine," wrote Sigerist,<sup>5</sup> "is social . . . Man has a right to health and is entitled to having this right secured . . . Everybody rich and poor should

have all the medical care that science can give. There is only one way of achieving this: The physician must be removed from the sphere of competitive business . . . He must be guaranteed in exchange (for his work) complete social security and the standard of living to which his education entitles him . . ."

This, then, is "socialized medicine."

Do not make the mistake of underestimating the parallel. Lest you be persuaded by idealistic altruism, one might refer you to a cute, but nevertheless, meaningful limerick:

There was a young lady of Riga

Who rode with a smile on a Tiger  
They returned from the ride

With the lady inside  
And the smile on the face of the Tiger.

It is difficult to tell you specifically what your comparable legal position will be because one must advise you with respect to the unknown. One must attempt to plumb the depths of the legislative mind. One could speculate endlessly on forms of legislation.

In approaching a comparison one is first struck by the feeling that comparison is useless, and at the same time, obvious. You have absolutely nothing to gain, and everything to lose. There is just no valid basis for comparison. It is like trying to compare apples and oranges.

Socialized medicine, or more properly, state-controlled and directed health services, are not the panacea they have been made out to be. An honest appraisal of these schemes wherever they have been implemented has revealed them to be financially ruinous to the governments and the people concerned. More importantly, it has resulted in a marked deterioration in the quality of the services provided and, indirectly, a dry rotting of the ethics and standards of the profession. Anyone interested in these problems need only refer to the excellent survey done by Lynch and Raphael.

This very comprehensive study leads one to the conclusion that the idealistic

concepts of the advocates of socialized medicine have not been realized in practice, and it should be noted that this is not because the experiments are very young. In their study the authors included Germany and Austria where the socialized system has been in operation for more than 70 years. They included the U.S.S.R. which presents the most completely socialized scheme, now in its forty-fourth year.

Lynch and Raphael<sup>4</sup> comment as follows:

"Socialized medical systems have not solved the problem of the distribution of physicians, either specialist or general practitioner. Everywhere they have increased demand for existing facilities. In the matter of physical facilities, there is evidence that the German and Austrian schemes have prevented the development and evolution of these (by) indirect fiscal control. In Britain, (by) direct control, (the result has been to freeze) the existing and largely antiquated hospital establishment . . . The system which appears to show the greatest waste in efficiency is the completely socialized one of the U.S.S.R.

"All compulsory schemes, but especially those relieving (the) patients of all financial responsibility, impair and may destroy the doctor-patient relationship. Office consultations degenerate to a routine, four- to ten-minute cursory examination, and become, in essence, a sickness certification procedure. This debasement of medical practice is tolerated by all compulsory and government - controlled schemes, and is actually promoted as an essential part of the control of costs, of overutilization and malingering. Experience suggests, however, that there is a gradual attrition of this control mechanism. Everyone becomes resigned to a reasonable level of abuse, but this unfavourable aspect is rarely mentioned, never publicized, or is cloaked in chauvinism.

"There appears to be no statistical evidence that any socialized medical scheme has resulted in an improvement in health beyond that enjoyed by those peoples still served by private systems of medical care. Indeed, there is more than a suggestion that the state systems result in (an) inferior medical care and inferior health statics. Most surprising of all, perhaps, is the fact that socialized medicine appears to fail most in the very field on which its most sanguine claims are based,

i.e. preventive medicine. It does appear that there is actually less attention paid to preventive medicine in socialized systems than in those based on private medical care . . .

"From the point of view of the medical profession, all evidence seems to point to the erosive influence of socialized medicine on professional standards — ethical, moral, social, and economic. Under such systems even those professions with outstanding traditions are gradually, but inevitably, transformed into dispirited, overworked, underpaid, and socially debased branches of the civil service, or, as in Russia, to a proletarian technocracy."

How then is it that we, as a society, and as a country find ourselves hell-bent for election on this expressway to self destruction? What is this uncontrollable impulse which appears to be driving our society towards state-controlled health services?

And why health services? No one is suggesting government control over the shoe manufacturing and distributing industry. Yet shoes are as indispensable to living in Canada as perhaps anything else.

There is a reason and that reason lies in an understanding of the law as an emotional process. The law is an emotional process because the law and the administration of justice deals with human beings. It is the humanity of the actors which is both the greatest strength and the greatest weakness of the law. The judges and the legislators are human beings — susceptible to prejudice, bias, sympathy and pain. They can try for complete objectivity but they can never attain it because of their humanity.

In its earliest notion law was not the deliberation or promulgation of a legislature but rather the decree of a king or ruler which he was prepared to enforce with his might. We have progressed somewhat but only as a matter of form. It is now the declaration of a legislative body enforced through its administrative bureaucracy. But, it is essential to your understanding that you recognize that there is no law apart from the government which ordains and enforces the law.

In both the making and enforcement we are dealing with human beings. We are dealing with an emotional process.

Just as you ought not to underestimate the dangers of state medicine, neither ought you to underestimate the forces you are combating. This uncontrollable impulse, this emotional factor which inexorably motivates the legislature — these are real, all too real.

Professor Parsons of Harvard University,<sup>5</sup> recently suggested that in the American society health has become a valued need of the society itself. We are, as a society, concerned about unnecessary incapacity. Curable and preventable illness constitute deductions from the effective manpower at the disposal of the society, and more importantly, from the point of view of the individual, illness or incapacity deprives the individual of opportunity for achievement through no fault of his own. The individual is born to believe that he is possessed of inherent rights to life, liberty and the pursuit of happiness. He sees illness and incapacity as depriving him of these rights. Curable and preventable illness is conceived of as limiting equality of opportunity and is in this sense unfair. As unfair as, for example, religious or ethnic discrimination.

This concept of an inherent right to health is exemplified further in the preamble to the Constitution of the World Health Organization adopted July 22, 1946:

"Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social conditions."

To oppose such a concept so basically altruistic and good would be political suicide. The right to health has become almost an infatuation. We, as a society, are intoxicated with the technological advances made by the health professions and are seeking the security of guaranteed

good health. The fact that it may be unattainable or prohibitively expensive does not deter us.

The impulse is analogous to purchasing a car or a house we cannot afford: we know we cannot afford it, our banker tells us we cannot afford it, our friends tell us we cannot afford it, everything within us tells us we cannot afford it, but — we buy it anyway.

This is the emotional process in action. Law is an emotional process. Some of the worst deeds in history were sanctified by the law. The aristocrats on their way to the guillotine in their tumbrils had the satisfaction of having been convicted under the law.

You will note that the society is not demanding the enslavement of the health professions. They are merely seeking reasonable freedom from the spectre of illness and incapacity. If they believe that to obtain this they must necessarily enslave the health professions, then that is what they will surely do.

Under our democratic process they possess the power to enslave the health professions. This, then, would be the law of the land. This is your comparable legal position. You will be transformed from an independent, autonomous, self-governing profession into a branch of the bureaucracy of the state administered by political appointees and reduced in time to high paid technicians.

But the society does not demand this — even the extremists do not express this view as anything other than a means to an end.

What does the society want from the health professions? The answer was given to you at your Annual Meeting in Vancouver last year by a representative of the Canadian Labour Congress. The public are seeking an improvement in the quality of health services, and I quote:

"There is no disputing the fact that Canadian physicians, dentists, and other medical and paramedical personnel are able and well trained. But to say this is not to concede that the health care now received by Canadians is of a high quality. Ac-



cordingly, what does quality connote? In the opinion of organized labour, and, it might be added, others who are probably accepted more readily as authoritative spokesmen on this subject, quality involves not only the education and skill of health care personnel but the assurance that there are enough of them to provide the necessary services, and they are so distributed as to be available and accessible where they are needed and not clustered in a few metropolitan areas. Quality, therefore, includes 'territorial justice.' It includes also a sufficiency of the facilities that are required for good health care, including properly equipped offices, hospitals, clinics, laboratories, pharmacies, and the like. Beyond that, it includes the proper organization of resources for their optimum use. It includes also methods of payment to cover services which, while providing an adequate income to the practitioner, do not impose an impossible burden on those who must bear the cost. Finally, quality in health care involves education of the public and of the practitioner in what is essentially a partnership for the promotion of the public well-being. It seems superfluous to add that a program that provides high quality of care must rest on an active and well financed and staffed program of research."<sup>6</sup>

There you have it.

If this demand for quality of service can be met without state interferences, without stripping the professions of their liberty and professional freedom, our society will be satisfied, and the public clamour will cease.

You possess within yourselves as a profession today, through your independent and autonomous governing bodies, the legal capacity to meet this need and demand for quality and service. Indeed, your professional organizations are in law charged with the duty and responsibility to provide for this need, and satisfy these demands of the society.

This is an emergency. These needs must be provided for immediately. They are not provided for, nor are society's demands satisfied by repeated and, I believe, senseless opposition to the creeping paralysis of state medicine. That is the negative approach. You must be positive in your approach. You must immediately

abandon your defensive positions and leap to the offensive. Your professional organizations possess the duty not only to yourselves but to the public — the public which has already endowed them through legislation with the capacity to prevent the disaster of state medicine.

You as members of the profession can support your leaders in their attempts to fulfil their obligation or you can frustrate and prevent them. The choice today is yours. Tomorrow you may have no choice at all.

You may surrender some of your individual liberties and professional freedoms to your own professional governing bodies, and in that way guarantee your rights to govern your own profession.

To those of you who may feel inclined to delay the decision may I leave with you another limerick:

There was a young lady of Kent  
Who said that she knew what it meant  
When men asked her to dine  
Gave her cocktails and wine  
She knew what it meant—but she went.

## RÉSUMÉ

*Les professions, qui sont des organismes légalement constitués et doués d'une autonomie complète, ont pour ainsi dire remplacé des corporations du Moyen-Age. Les groupements professionnels dont le rôle est de veiller à la santé des populations jouissent d'une indépendance extraordinaire qui leur permet d'arrêter leur propre réglementation. Ils sont en quelque sorte des Etats miniatures possédant des pouvoirs législatifs et judiciaires vis-à-vis leurs membres. Fait étrange, leurs membres, par ailleurs, ont une idée très vague et très lointaine des fonctions de l'organisme qui dirige leurs destinées.*

*Le professionnel, en général, est un être égocentrique. Il n'aime pas qu'on s'occupe de ses affaires. Il n'a pas de largeur de vue; il se concentre seulement*

dans un univers qui peut l'affecter personnellement. Il réalise peu qu'il est membre d'une profession autonome et que seul son organisme peut solutionner ses problèmes. Il oublie totalement que sa liberté individuelle et que son indépendance professionnelle sont actuellement en jeu. Le professionnel gardera ses coudees franches à une seule condition: les associations professionnelles — en particulier les organismes directeurs des professions — doivent être forts. Il vaut mieux que l'individu sacrifie quelque peu de son indépendance professionnelle et de sa liberté personnelles à son association plutôt que de voir violer ses droits et les voir confiés à une agence gouvernementale créée et sujette au climat politique du jour.

Quel est cet engouement incontrôlable qui porte notre société vers des services de santé étatisés? C'est qu'elle associe la loi à ses sentiments. La santé est devenue un bien inestimable. La population s'inquiète d'être immobilisée sans nécessité et d'être ainsi privée, sans qu'il soit de sa faute, de réaliser ses ambitions. Les maladies qui peuvent se guérir et se prévenir sont vues comme des facteurs qui abaissent les chances de succès et, de ce fait, elles sont jugées injustes. C'est pourquoi le droit à la santé est devenu une toquade. C'est le processus émotionnel.

Les gens n'exigent pas que les professions sanitaires soient mises en chaînes; ils recherchent seulement d'être libérés du spectre de la maladie et de l'impuissance qu'elle entraîne. Si, pour satisfaire ce désir, ils croient qu'il faille assujettir les professions, alors ils seront en faveur de cette mesure.

Quels services la population demande-t-elle aux professions de santé? Elle exige que le personnel de santé compte dans son sein assez d'individus qualifiés pour lui prodiguer les soins nécessaires. Elle veut que ce personnel soit distribué de façon à ce qu'il soit disponible et accessible quand elle en a besoin; elle ne veut pas qu'il se cloisonne dans les grandes villes. Elle désire des disponibilités suffisantes,

comme des cabinets bien aménagés, des hôpitaux, des cliniques, des laboratoires, des pharmacies, etc. Elle souhaite des honoraires qui, tout en permettant un revenu suffisant au praticien, ne lui impose à elle pas un fardeau trop lourd. Enfin, elle demande que le public et les praticiens s'entendent pour améliorer son bien-être. Si toutes ces exigences peuvent être satisfaites sans l'ingérence de l'Etat et sans enlever aux professions leur liberté et leur indépendance, nos concitoyens seront heureux et cesseront leurs réclamations.

Les professions, grâce à leurs organismes directeurs qui possèdent toute l'autonomie et toute l'indépendance nécessaires, ont en leur possession le pouvoir de satisfaire ces besoins et ces exigences. En fait, la loi leur impose comme devoir et responsabilité de satisfaire à ces besoins et aux exigences du public.

C'est urgent! Ces besoins doivent être satisfaits tout de suite. Ce n'est plus le temps de s'opposer futilement à cette paralysie envahissante qu'est la médecine d'Etat. Les membres des professions doivent se rallier derrière leurs dirigeants, quand ceux-ci s'efforcent de remplir leurs obligations. Ils seront peut-être appelés à abdiquer à leurs organismes directeurs certaines de leurs prérogatives individuelles ou une partie de leur indépendance professionnelle, mais, en agissant de la sorte, elles peuvent garantir les droits qu'ils ont de diriger les destinées de leur profession.

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## Dispersion strengthened amalgams

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Dispersion strengthening of metals<sup>1</sup> is a fairly recent metallurgical development and has been used mostly to improve the high temperature strength of some alloys.

Deformation of metals involves slip with which is associated the movement of dislocations through the crystal lattice. Dislocations can be described generally as lines of imperfection in a metal crystal. They can form as a result of stacking faults occurring during solidification of the metal or during cold work. If obstacles are placed in the paths of these dislocations, with which there may be associated an elastic stress field, more energy is required to move the dislocation past the obstacle, and so higher stress levels are achieved for a given amount of strain. This is the basis of dispersion strengthening.

Clinical studies<sup>2,3</sup> have shown that a large number of failures of amalgam restorations can be related to either the improper geometry of the restoration, which results in excessive local loading, or (and) to the generally low compressive strength of the material. It was with the view to increasing the compressive strength of the amalgam through the addition of a dispersion phase that the present study was undertaken. The amalgams were prepared by adding various amounts of a silver-copper eutectic (71.9 per cent Ag—28.1 per cent Cu)‡ alloy powder to a powder of the silver-tin phase  $\text{Ag}_3\text{Sn}$  (73.2 per cent Ag—26.8 per cent Sn). Amalgams prepared from

pure  $\text{Ag}_3\text{Sn}$  powder were taken as the standards against which the results of the dispersion strengthened amalgams were compared.

### MATERIALS

Both the silver-tin and the silver-copper alloys were prepared by melting in an electric furnace under an argon gas atmosphere. The melts were stirred, degassed with argon, and then quench cast in cold copper moulds. The alloys, in their ingot or comminuted state, were not heat-treated.

The phase diagram<sup>4</sup> for the silver-copper system is shown in Figure 1. A basic requirement for a dispersion phase is that its hardness and strength exceed that of the matrix material (silver-copper phase-120 Diamond Pyramid Hardness units (D.P.H.); standard set amalgam—110 D.P.H.). The hardness and strength of the silver-copper eutectic alloy<sup>5</sup> are related to the very fine lamellar structure of the  $\alpha$  and  $\beta$  phases obtained on quench casting the alloy (Figure 2). The toughness of this alloy makes it difficult to powder and this was possible only by a laborious filing technique. Figure 3 shows the shape of the sieved dispersion particles in the size range ( $-39 + 27$ ) microns resulting from this method of comminution. Other reasons for choosing this alloy as the dispersion phase are its low susceptibility to corrosion (hence low toxicity), and its tendency to amalgamate, forming a diffusion bond with the matrix.

The silver-tin alloy was comminuted by turning the ingot on a lathe. The microstructure of this standard amalgam (Figure 4) does not differ much from

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‡This study was part of a project sponsored by the National Research Council of Canada (Project No. DA-95).

§All concentrations in weight per cent.



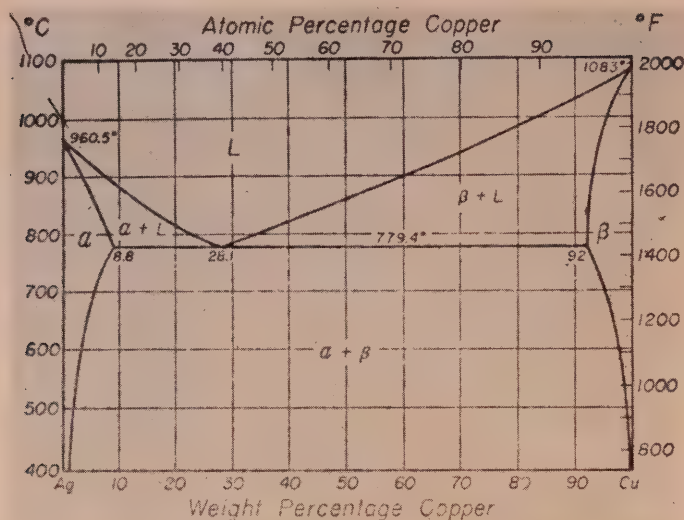


FIGURE 1. Silver-copper equilibrium diagram.

the amalgamated commercial alloys. The microstructure of the dispersion strengthened amalgams (Figure 5) is a mixture of the amalgamated phases of the standard silver-tin alloy and the silver-copper dispersion alloy. These amalgams are prepared by adding an amount of dispersion powder equal to some percentage by weight of standard alloy powder present (referred to in terms of weight ratios). The total powder weight is then amalgamated using a specific alloy powder to mercury ratio. All the amalgams reported here were prepared in a *Wig-L-Bug* amalgamator using a metal capsule and a 5/16 inch ball bearing pestle instead of the narrow rod pestle usually supplied with this apparatus, since compressive strengths of amalgam prepared with the ball pestle were slightly higher than those prepared with a rod pestle. In all the tests reported using the standard alloy matrix, the alloy particle size range is ( $-103 + 74$ ) microns ( $-150 + 200$  mesh). The condensation pressure used in all tests was 10,000 p.s.i., applied for one

minute using a Hounsfield tensometer. All amalgams using the standard alloy matrix were triturated for 30 seconds and all amalgams using the commercial matrix were triturated for 15 seconds.

#### TESTING PROCEDURES

Flow of dispersion strengthened amalgams was determined by the procedure set down in the American Dental Association's Specification No. 1,<sup>6</sup> with the exception that the diameter of the specimen was 0.1563 inches rather than four millimetres (0.1575 inches). Figure 6 shows the flow test machine. The load is applied with a fulcrum-mounted beam; the specimen sits on a stage on one end of the beam and the flow under load is measured with a dilatometer gauge placed at the other end of the beam. The dilatometer gauge reads to 0.0001 inches. The mechanical advantage of the beam is 2.6, the beam rotating through an angle of less than four minutes if the

total measured flow is one per cent. The eccentricity due to the rotation, of the beam is assumed to have no significant effect on the flow test result. Initial flow testing was done on dispersion strengthened amalgams prepared using an alloy powder to mercury ratio of 1:1. Low compressive strengths indicated that this alloy to mercury ratio produced an amalgam that was too dry, condensing poorly and failing prematurely. However, the flow test results are considered to be valid since the load is no more than three per cent of the ultimate compressive strength of the amalgam. The alloy to mercury ratio was changed to 5:7 to obtain better condensation for the compression tests and subsequent flow test

samples. A commercial amalgam with and without dispersion powder was also flow tested and the results are entered for comparison. More emphasis is placed on compression rather than flow tests in this study, even though the A.D.A. specification does not require compression tests. The compression tests relate directly the strength to weight ratio and particle size of the dispersion powder added. On the other hand there is some doubt about the clinical significance of flow. Skinner<sup>7</sup> has shown that flow is dependent upon condensation pressure, which is not specified in the A.D.A. specifications.

Compression test specimens were prepared in the same mould as flow test

FIGURE 2. Silver-copper eutectic alloy microstructure, quenched,  $\times 1050$ .

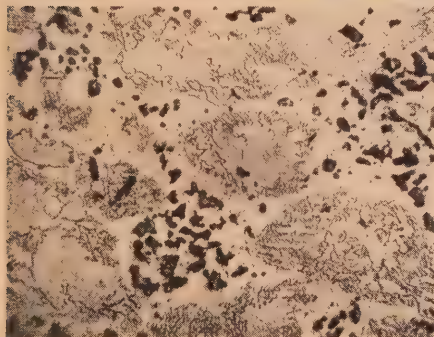
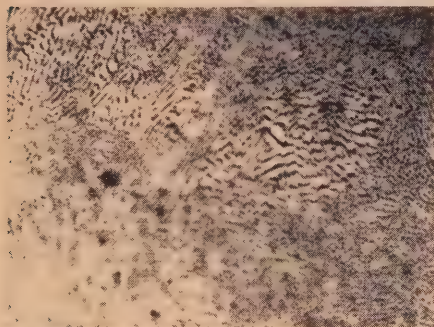


FIGURE 4. Standard amalgam microstructure,  $\times 700$ .

FIGURE 3. Shape of  $(-38 + 27)$  microns dispersion powder,  $\times 200$ .

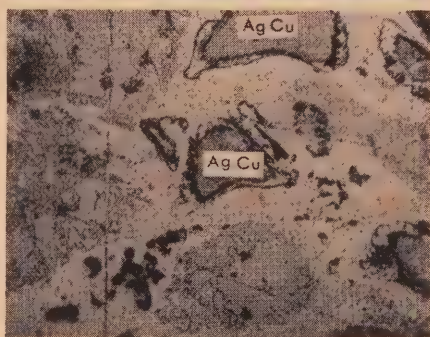


FIGURE 5. Dispersion strengthened amalgam microstructure. The dispersion particles are labelled  $\times 700$ .

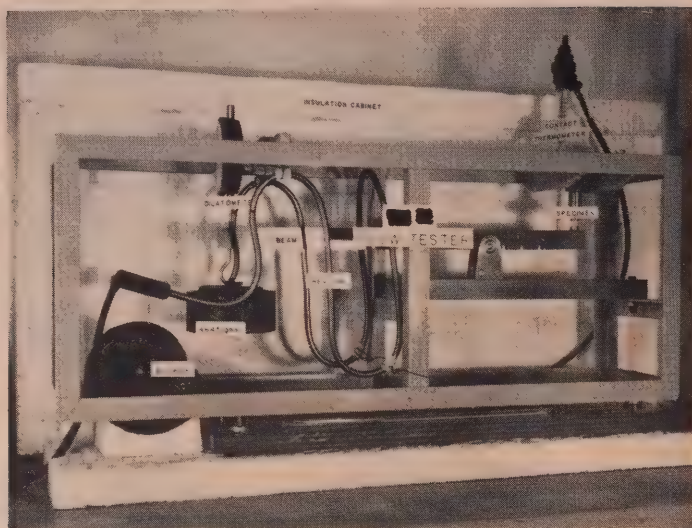


FIGURE 6. Flow test apparatus.

specimens and were aged for one week at room temperature before breaking in a Hounsfield tensometer. The loading rate in the compression tests was 0.1 millimetres per minute. The values entered are the averages of at least three compression tests of each particular amalgam.

Dimension change tests were made according to the A.D.A. specifications. The dimension changes were determined with the dilatometer gauge used in the flow tests.

## RESULTS AND DISCUSSION

Figure 7 shows the effect on flow (after 21 hours) of the particle size and amount of dispersion powder in the amalgam. All flow tests were made using an alloy to mercury ratio of 1:1, with the exception of the points labelled 1 and 2 for which the alloy to mercury ratio is 5:7. The points on the curve of Figure 7 represent only one flow test of each par-

ticular amalgam, but the results show a trend predictable by the theory of dispersion hardening; i.e. flow should decrease (strength increases) for an increase in amount of dispersion phase and decrease in particle size. Point 1 gives the flow for an amalgam with a 0.5 weight ratio of dispersion powder to standard alloy powder and an alloy to mercury ratio of 5:7. The final flow was slightly over one per cent. This is a 650 per cent decrease in flow compared to the standard amalgam prepared with a 1:1 alloy to mercury ratio. Point 2 gives the flow for an amalgam with a 0.5 weight ratio of dispersion powder to commercial alloy powder. The final flow value was 0.53 per cent, which is less than one half the flow of the commercial amalgam without the dispersion powder. Decreasing flow with additions of dispersion powder indicates that the effect of the dispersion powder is to impede dislocation movement, thus increasing the ability of the amalgam to strain harden.



FIGURE 7. Variation of 21-hour flow with weight ratio of dispersion powder to standard alloy. X = Standard matrix, (—103 + 74) microns Ag-Cu, 1:1 alloy to Hg ratio.  $\ominus$  = Standard matrix, (—44 + 38) microns Ag-Cu, 1:1 alloy to Hg ratio.  $\bullet$  = Standard matrix, (—38 + 27) microns Ag-Cu, 1:1 alloy to Hg ratio.  $\bullet$  = Commercial matrix, (—103 + 74) microns Ag-Cu, 1:1 alloy to Hg ratio.  $\circ$  = Standard matrix, (—38 + 27) microns Ag-Cu, 5:7 alloy to Hg ratio. 2  $\circ$  = Commercial matrix, (—38 + 27) microns Ag-Cu, 5:7 alloy to Hg ratio.

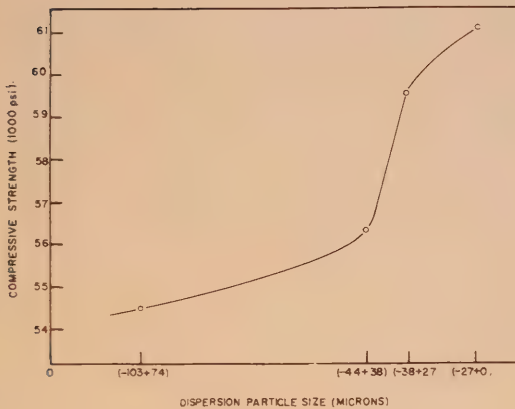
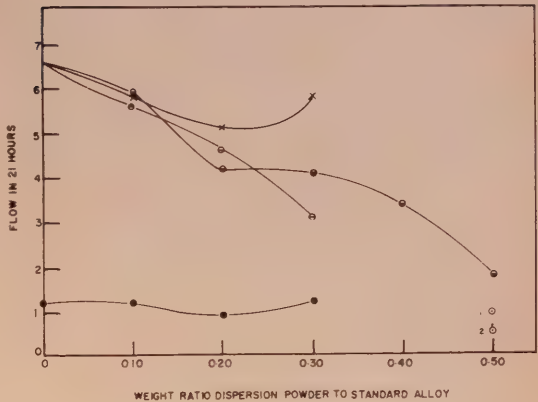


FIGURE 8. Variation of compressive strength with size of dispersion particle for amalgams containing a 0.3 weight ratio of dispersion powder to standard alloy. Alloy to mercury ratio is 5:7. Triturated for 30 seconds.

Figure 8 shows the results of compression strength versus dispersion powder size for a weight ratio dispersion powder to standard alloy powder of 0.3 and an alloy to mercury ratio of 5:7. A very sharp increase in strength occurs when the particles of the dispersion powder

are less than 44 microns. Further tests are needed to establish the effect of particles considerably less than 27 microns in size, but an increase in compressive strength is expected.

Figure 9 shows the results of compressive strength versus weight ratio of

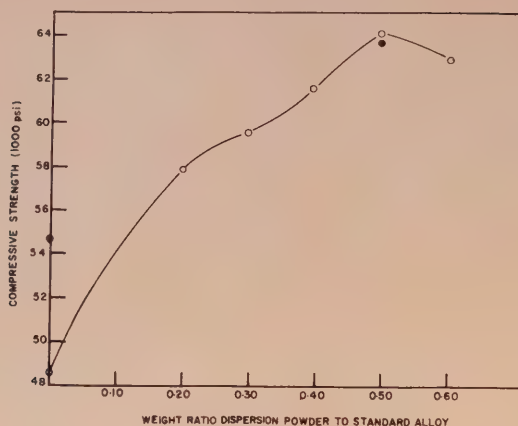


FIGURE 9. Variation of compressive strength with weight ratio of ( $-38 + 27$ ) microns dispersion powder to standard alloy. Alloy to mercury ratio 5:7. Triturated for 30 seconds. O = Standard matrix. ● = Commercial matrix.

( $-38 + 27$ ) micron dispersion powder to standard alloy powder. A general increase is evident up to a weight ratio of 0.5, beyond which it decreases. This would indicate that a weight ratio of 0.5 is the maximum for this particular size of dispersion powder, and beyond this the matrix becomes overloaded. This indication of an overload point can also be seen in Figure 7 for flow tests of amalgams containing ( $-103 + 74$ ) micron dispersion powder. Using either the standard alloy matrix or a commercial alloy matrix, the flow is decreased up to a weight ratio of 0.2, beyond which it increases again. Comparing these two overload weight ratios it is evident that the overload weight ratio increases as particle size decreases.

Figure 9 also shows the effect of adding dispersion powder to a commercial amalgam alloy. A commercial amalgam containing a 0.5 weight ratio of dispersion powder to commercial alloy, prepared as directed by the manufacturer,

showed an increase in compressive strength of 15 per cent over the commercial amalgam without dispersion powder. With a 0.5 weight ratio of dispersion powder in the standard alloy matrix, the increase in compressive strength is about 33 per cent.

A dimension change test of an amalgam with a 0.5 weight ratio of dispersion powder to standard alloy powder and an alloy to mercury ratio of 5:7 gave a total expansion of 0.23 per cent. This is 0.03 per cent greater than the allowable expansion of 0.20 per cent specified by American Dental Association. However, this test was made using the standard alloy matrix which has no particular merits other than being the reference standard. The dimension change of an amalgam containing a 0.5 weight ratio of dispersion powder to the commercial alloy is 0.084 per cent which is within the specified maximum allowable expansion.

# CONCLUSIONS

The results show that dispersion strengthening can be successfully applied to mercury amalgams. The flow is most notably decreased by adding the dispersion powder to the amalgam. For the standard alloy matrix flow was decreased by more than 600 per cent and the compressive strength was increased by more than 30 per cent. The alloy to mercury ratio should be less than 1:1 to ensure proper condensation of the amalgam. Otherwise premature compression failure may occur due to the presence of voids.

An investigation is now in progress to determine the clinical feasibility of dispersion strengthened amalgams.

# RÉSUMÉ

Les auteurs ont fait des recherches pour se rendre compte s'ils pourraient améliorer les propriétés mécaniques de l'amalgame dentaire en le renforçant contre la diffusion par l'action eutectique d'un alliage d'argent et de cuivre (argent—71.9 pour cent; cuivre—28.1 pour cent).

Le taux d'expansion et la force de compression de l'amalgame renforcé contre la diffusion dépendent du volume des par-

ticules et de la quantité ajoutée de poudre de diffusion.

Ces travaux montrent que le taux d'expansion peut être diminué jusqu'à 600 pour cent et la force de compression augmentée de 30% dans un amalgame ordinaire (argent — 26.8 poids pour cent étain) si on y ajoute la quantité appropriée d'une poudre d'amalgame de cuivre et d'argent ayant des qualités d'eutectie. Un manufacturier a amélioré les propriétés mécaniques de son amalgame en renforçant sa diffusion.

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*Erratum Concerning Retirement of H. K. Brown* • The retirement of H. K. Brown, dental consultant, Department of National Health and Welfare, was prematurely reported in the news columns of the August issue of the *Journal of the Canadian Dental Association*. It has since been learned that Dr. Brown continues in office until December 13, 1963 and severs his connection with the federal department on April 13, 1964.



## Clinical comparison of trichloroethylene and halothane in short-duration general anaesthesia for children

W. R. Dover, D.D.S., B.Sc.D. (Anaes.), Toronto, Ontario

"... Probably the greatest advance in the field of dental anaesthesia since the introduction of gas and oxygen (as opposed to gas and air) has been the advent of *Fluothane* (halothane) and the growing knowledge that this anaesthetic can safely be used..."<sup>1</sup> This superlative statement by an eminent British anaesthesiologist, together with the knowledge that trichloroethylene has been (and still is) the adjunctive agent of widest choice in nitrous oxide — oxygen anaesthesia in dentistry, prompted an interest in conducting a clinical comparison of the two agents. With the advent of newer and more potent inhalation agents suitable for dental anaesthesia, it was thought that some useful information might be developed by making such a clinical comparison under controlled conditions, employing the same criteria, and on a statistically significant number of cases.

*Trichloroethylene.* — Trichloroethylene was first discovered in 1864 by Fisher.<sup>2</sup> It was originally used in medicine to control the pain of *tic douloureux*. Its analgesic properties were noted by Plessner in 1915. It was first used clinically in anaesthesia by Dennis Jackson, an American, in 1935. Trichloroethylene experienced a period of disuse until Hewer, an Englishman, in his search for a potent, non-inflammable agent, revived interest in the drug in 1939. Since its analgesic and anaesthetic properties became apparent, trichloro-

ethylene has been widely used in dentistry as an analgesic agent and, in combination with nitrous oxide—oxygen for anaesthesia. *Trilene* is a proprietary name for a specially purified, stabilized and distinctively coloured form of trichloroethylene. It is stabilized by the addition of 0.01 per cent thymol and coloured with a harmless blue dye in the ratio of 1:200,000.

*Halothane.* — Halothane was first synthesized by Raventos and Suckling in 1956.<sup>3</sup> The discovery was made while a series of fluorinated hydrocarbons was being investigated in search of a potent, non-explosive anaesthetic agent. The first clinical trial of halothane was reported by Johnston in 1956. Halothane was released for sale in Canada and the United States in 1958. Two years before its release it was pharmacologically and clinically investigated at the Ayerst laboratories and in independent centres to whom over four thousand pounds of the agent were supplied for pure research purposes. Extensive investigations of this nature had previously been carried out in England, and when halothane was released there in March 1957, its introduction was based on the administration of over 5,000 anaesthetics; moreover, reports of 2,950 cases were available from nine American hospitals by May 1957. By the time halothane was released for sale on this continent, twenty thousand anaesthetics had been administered, providing clinical experience and methods to ensure the safety and successful application of the drug.

Based on a paper submitted in partial fulfilment for the degree of Bachelor of Science in Dentistry, University of Toronto.

## CHEMISTRY AND PHARMACOLOGY

**Nitrous Oxide.** — Nitrous oxide ( $N_2O$ ) is the only inorganic gas used to produce anaesthesia. It is prepared commercially by heating ammonium nitrate to  $240^\circ C$ .<sup>2</sup>



Nitrous oxide produces rapid but light anaesthesia and is usually employed with minimal amounts of oxygen in dentistry. Combined with adequate amounts of oxygen, it is chiefly used to produce amnesia and analgesia. Its action within the blood stream is purely physical, primarily through the replacement of nitrogen in the blood. It does not combine chemically with any tissues. It is the weakest of all the anaesthetic agents and, in most cases, light surgical anaesthesia is the greatest depth that can be attained. In some patients even this is achieved with difficulty, if at all.

The use of nitrous oxide as the sole anaesthetic agent is contra-indicated when it is necessary to increase the percentage of nitrous oxide at the expense of reducing the oxygen percentage to hypoxic levels—most particularly in patients with cardiovascular or hyperthyroid disease.

The advantages of nitrous oxide most frequently listed are:

1. rapid induction
2. rapid recovery
3. non-irritating to mucous membranes of the tracheobronchial tree
4. not damaging to heart, liver and kidneys when administered with metabolic oxygen
5. produces minimal postoperative nausea and vomiting
6. non-inflammable and non-explosive

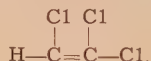
The disadvantages of nitrous oxide, such as lack of adequate muscle relaxation, difficult anaesthetic maintenance and the ever-present danger of hypoxia are all traceable to the inherent weakness of nitrous oxide as an anaesthetic agent.

**Oxygen.** — Oxygen is usually prepared by the fractional distillation of liquid air.

It may also be prepared by the electrolysis of water or by the reaction of water with sodium peroxide.

Oxygen is essential for life and is a necessary constituent of all anaesthetic mixtures. Its concentration should be at least sufficient to maintain normal body metabolism or any increased demands required at any particular time. Patients vary in sensitivity to oxygen deficiency. Patients with cardiac or pulmonary disease are more susceptible because their ability to compensate is impaired. Thyrotoxic patients become hypoxic easily because of their greater oxygen consumption. Conversely, hypothyroid patients are more tolerant of oxygen lack. Indeed, the particular oxygen requirement of the patient free of any organic disease varies greatly. It is for this reason that adjunctive agents to nitrous oxide-oxygen anaesthesia are of such importance in order that periods of hypoxia, however brief, and the irreparable damage they may cause, may be avoided.

**Trichloroethylene.** — Chemically, trichloroethylene is:

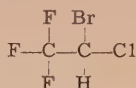


It is an unsaturated chlorinated hydrocarbon prepared by the dehydrochlorination of tetrachlorethane with lime. It is the only reactive inhalation agent and when in contact with alkaline substances, will yield extremely toxic products. For this reason, trichloroethylene may never be used in a closed anaesthetic system with a soda lime absorber. Trichloroethylene is considered incompatible with adrenaline, levarterenol (*Levophed*) or nordephrine (*Cobefrin*). It may be used with phenylephrine (*Neo-synephrine*).<sup>2</sup>

Trichloroethylene possesses high analgesic potency and it is primarily this property that has kept it very popular as an adjunct to nitrous oxide for anaesthesia in dentistry.

Cardiac arrhythmias have been reported when trichloroethylene has been utilized in high concentrations or over prolonged periods of anaesthesia.<sup>2</sup> Tachypnoea is also observed with trichloroethylene, and it is believed that this is due to a sensitization of the vagal stretch receptors in the lungs.

**Halothane.** — Chemically, halothane is 2-bromo 2-chloro 1-1-1 trifluoroethane, having the structural formula



Its potency has been described as being four times that of ether.<sup>2</sup> It has a characteristic pleasant odour and is non-irritating to the airway. Potent hypotensive properties have been reported when halothane has been used in high concentrations. Halothane is not compatible with d-tubocurarine, adrenaline and levarterenol as these combinations tend to increase the irritability of the myocardium and predispose to cardiac arrest. Halothane is eliminated unchanged through the lungs. Although it has a highly potent depressant effect on the central nervous system, it has no deleterious effect on kidney or liver and is rapidly eliminated.

#### METHOD OF STUDY

A total of 528 patients were considered in this study. These patients were children ranging in age from 3½ to 16 years. They comprised 280 females and 248 males, all in apparent good health and coming from the same general social stratum. These patients were referred, through the Department of Health, from Toronto public and separate schools to the special clinic at the Faculty of Dentistry, University of Toronto. Pre-anaesthetic evaluations were conducted on all patients, and unless there were some contradictions to general anaesthesia, trichloroethylene and halothane were utilized alternately according to the order in which patients presented for treat-

ment. Patients considered in the study were unpremedicated (except for atropine administered sublingually in *hyplet*\* form). The anaesthetist administered 429 similar anaesthetics preceding the commencement of the study in order to develop a standardized technique and to become familiar with the anaesthetic apparatus. Trichloroethylene was administered using a McKesson ether vapourizer. Halothane was administered using a Walton IV or V anaesthetic apparatus with a Goldman vapourizer. A semi-open system was utilized for all the patients. The periods of induction, maintenance and recovery were timed by a stop-watch and recorded. Arbitrarily, induction begins when the face-mask or nose-piece is brought to the patient's face; induction terminates and maintenance begins when the mouth is propped and the oropharyngeal partition is placed; maintenance terminates and the recovery period begins when the mouth is closed at the conclusion of the operation. Recovery terminates when the patient is once again orientated to his surroundings and is able to recognize the anaesthetist. Observations were made and noted regarding the events of induction, maintenance and recovery.

The pre-operative pulse was taken and the pulse was monitored throughout the duration of the anaesthetic. No per-operative blood pressure measurements were recorded except in cases where anaesthetic maintenance exceeded ten minutes. Of the 796 anaesthetics given during the period of this study (January 3-June 30, 1962), the following cases were eliminated from consideration and for the reasons stated:

44 cases were given rectal thiopental (*Pentothal*) for basal narcosis

35 cases were given pentobarbital (*Nembutal*) intravenously for pre-anaesthetic sedation

\**Hyplet*—a pressed tablet which disintegrates when exposed to the slightest pressure or moisture. Suitable for absorption through the mucous membrane.



TABLE 1 Summary of observations from 528 children administered nitrous oxide-oxygen anaesthesia in combination with halothane or trichloroethylene.

| Criteria                               |         |                             | All patients<br>(528) | Patients receiving                                    |                                                               |
|----------------------------------------|---------|-----------------------------|-----------------------|-------------------------------------------------------|---------------------------------------------------------------|
|                                        |         |                             |                       | N <sub>2</sub> O-O <sub>2</sub><br>Halothane<br>(266) | N <sub>2</sub> O-O <sub>2</sub><br>Trichloroethylene<br>(262) |
| Duration of anaesthetic (all patients) | Range   |                             | 1'15" - 19'45"        | 1'15" - 19'45"                                        | 1'40" - 9'25"                                                 |
|                                        | Average |                             | 6'10"                 | 7'5"                                                  | 5'15"                                                         |
| Period of induction                    | Time    | Range                       | 50" - 4'5"            | 50" - 1'50"                                           | 1'15" - 4'5"                                                  |
|                                        |         | Average                     | 1'40"                 | 1'15"                                                 | 2'5"                                                          |
|                                        | Events  | Struggling                  | 86                    | 11                                                    | 75                                                            |
|                                        |         | Coughing, retching          | 47                    | 12                                                    | 35                                                            |
|                                        |         | Breath-holding              | 37                    | 18                                                    | 19                                                            |
|                                        |         | Excessive salivation        | 183                   | 28                                                    | 155                                                           |
|                                        |         | Crying                      | 70                    | 7                                                     | 63                                                            |
|                                        |         | Laryngeal spasm             | 9                     | 2                                                     | 7                                                             |
| Period of maintenance                  | Time    | Range                       | 10" - 12'10"          | 15" - 14'25"                                          | 10" - 4'35"                                                   |
|                                        |         | Average                     | 2'50"                 | 3'20"                                                 | 2'20"                                                         |
|                                        | Events  | Struggling                  | 80                    | 6                                                     | 74                                                            |
|                                        |         | Crying                      | 12                    | 1                                                     | 11                                                            |
|                                        |         | Tearing                     | 159                   | 17                                                    | 142                                                           |
|                                        |         | Sweating                    | 104                   | 14                                                    | 90                                                            |
|                                        |         | Absence of relaxation       | 215                   | 13                                                    | 202                                                           |
|                                        |         | Tachypnoea                  | 290                   | 32                                                    | 258                                                           |
| Period of recovery                     | Time    | Range                       | 15" - 3'30"           | 20" - 3'30"                                           | 15" - 45"                                                     |
|                                        |         | Average                     | 1'40"                 | 2'30"                                                 | 50"                                                           |
|                                        | Events  | Delayed emergence           | 105                   | 81                                                    | 24                                                            |
|                                        |         | Struggling during emergence | 78                    | 8                                                     | 70                                                            |
|                                        |         | Prolonged recovery          | 52                    | 40                                                    | 12                                                            |
|                                        |         | Postoperative nausea        | 151                   | 28                                                    | 123                                                           |
|                                        |         | Postoperative vomiting      | 122                   | 15                                                    | 107                                                           |
|                                        |         | Headache                    | 13                    | 2                                                     | 1                                                             |
|                                        |         | Dental complications        | 2                     | 2                                                     | 0                                                             |

89 cases where: (a) the anaesthetic was not administered according to the regimen of the study; (b) the information was incomplete or inaccurate; (c) procedures complicating the anaesthetic were employed e.g. laryngoscopy for teaching purposes.

#### DISCUSSION

Since the observations were time measurements (minutes, seconds) and expressions of numbers of cases, the observa-

tions were conveniently tabulated (see Table 1).

The properties most frequently listed as being most desirable in an anaesthetic agent for dental procedures are:

1. non-inflammable, non-explosive
2. rapid induction
3. early depression of laryngeal and pharyngeal reflexes
4. non-irritating to the airway
5. ease of anaesthetic maintenance

6. moderate muscle relaxation
7. minimal disturbance of normal physiology
8. rapid recovery
9. absence of nausea and vomiting

Neither trichloroethylene or halothane are inflammable or explosive. Mixtures of 10 per cent trilene and 90 per cent oxygen are explosive, but this is an improbable mixture since 2.5 per cent trichloroethylene is the maximum concentration indicated for dental procedures. It was, in fact, the need for a more potent, non-explosive agent that launched the program of research which led to the use of halothane.

When the results of the present study are viewed in the light of the above-mentioned criteria, the following conclusions may reasonably be drawn:

1. Halothane used as the adjunct provides a more rapid anaesthesia induction.
2. The visibly noteworthy events occurring during induction show a considerably higher incidence when trichloroethylene is used as the adjunct.
3. Breath-holding occurs to the same degree with both agents and it was concluded that breath-holding was related to the rate of increase of the adjuvant concentration rather than to the nature of the adjuvant itself.
4. The incidence of coughing and laryngeal spasm was lower with halothane. This appears to be related to the low incidence of excessive salivation. It is concluded that halothane depresses laryngeal reflexes earlier and possesses a drying effect on the airway.
5. Halothane is less irritating to the airway than is trichloroethylene. Both, however, may be irritating if their concentration in the inspired mixture is increased too rapidly.
6. Moderate muscle relaxation was achieved in 95 per cent of the patients who received halothane and 24 per cent of the patients who received trichloroethylene. It is concluded that halothane

easily produces that degree of muscle relaxation considered desirable in dental procedures.

7. The incidence of factors militating against tranquil anaesthetic maintenance was higher with trichloroethylene.

8. Manifestations of physiologic upset (i.e. sweating, postoperative nausea and vomiting) were more frequent with trichloroethylene. Since minimal disturbance of normal physiological processes is a desirable objective, it is concluded that halothane is the agent of choice.

9. Recovery periods were more rapid, although more eventful, with trichloroethylene. 81 per cent of the patients who received trichloroethylene demonstrated some degree of postoperative nausea. Other events of emergence and recovery showed no relationship to the adjunct used.

10. Since nitrous oxide was common to all anaesthetics given, it is concluded that all of the variations are attributable to the adjuncts used.

From the results and impressions of this study, it is generally concluded that physiological and pharmacological principles ought now to govern the choice of anaesthetic agents. Although most patients can be safely and satisfactorily dealt with by routine born of experience and habit, a sound understanding of the patient and the agents available enables the proper and best choice to be made. As always, investigation in the field of anaesthesiology is being directed toward development of agents and methods of their administration that will cause fewer and less profound disturbances of normal physiological function. In addition, this quest includes a search for ways to help the body better withstand the inevitable physiological insult of anaesthesia.<sup>4</sup>

According to Goldman, "Small quantities of fluothane with nitrous oxide and oxygen provides safer anaesthesia for dental patients. The surgeon is provided with excellent operating condition: a still patient, absence of excessive salivation,

relaxation of the jaw and muscles of the lips. Recovery is rapid and more pleasant than after nitrous oxide-oxygen anaesthesia.”<sup>5</sup> This study would tend to support that statement.

#### SUMMARY

A comparison study of halothane and trichloroethylene as adjuncts to nitrous oxide-oxygen anaesthesia was conducted. It was found that halothane provided faster, less eventful induction, easier maintenance and minimal physiological upset. Trichloroethylene provided faster, though more eventful recovery. The incidence of events occurring during periods of induction, maintenance and recovery indicated that halothane was the agent of choice. Trichloroethylene appears to have its widest application where hypalgesia (diminished sensation to pain which results from a raised pain threshold) rather than light surgical anaesthesia is the objective. The high analgesic potency of trichloroethylene appears to have a continuing and useful application in dentistry.

#### RÉSUMÉ

*L'auteur a fait une étude comparée de l'anesthésie de courte durée chez les enfants avec l'halothane et le trichloréthylène comme adjuvants du protoxyde d'a-*

*zote. Il a constaté que l'halothane raccourcit la phase d'induction qui s'opère sans incident, maintient l'anesthésie plus facilement et occasionne un moindre choc physiologique. Le trichloréthylène, par ailleurs, s'élimine plus rapidement, mais en y favorisant davantage des phénomènes désagréables. Ces recherches montrent que l'halothane est préférable au trichloréthylène à cause du peu de perturbations qu'il occasionne durant l'induction, durant l'anesthésie et durant l'élimination de cette anesthésie. Il semble que le trichloréthylène doive surtout s'employer pour les cas d'hypalgésie (diminution de la douleur résultant de l'élévation du seuil de la douleur) plutôt que pour l'anesthésie chirurgicale légère.*

*Cependant, le trichloréthylène, à cause de ses grandes qualités analgésiques, garde sa place avantageusement en dentisterie.*

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2 Homewood Avenue

*Three Antibiotics Discolour Teeth* • The United States Food and Drug Administration recently warned that children's teeth can be seriously discoloured by three types of tetracycline antibiotics — tetracycline, chlortetracycline and oxytetracycline. There is no evidence that a fourth drug, demethylchlortetracycline, causes the discoloration which is believed to be permanent. There is also no evidence that the discoloration involves any health hazards. — American Dental Association Newsletter, April 30, 1963.



## annotations

### YELLOW TEETH AND TETRACYCLINES

D. C. T. Bullen, D.M.D., D.D.P.H.,  
Nanaimo, British Columbia

Previous studies<sup>1,2,3</sup> have shown that a high percentage of children receiving tetracycline antibiotics (tetracycline, chlortetracycline and oxytetracycline) in infancy and early childhood, will later present markedly yellow teeth, in both the deciduous and permanent dentition.

Of 1,281 school children, aged six and seven, in the towns of Duncan, Nanaimo and Courtenay, British Columbia, who were dentally inspected in late 1962, six revealed lemon-yellow teeth; two cases occurred in deciduous teeth only, and four in permanent teeth only. No grey-brown teeth were noted, as reported by Weyman and Porteous.<sup>3</sup>

Follow-up of the medical histories of these six children revealed that in five cases tetracyclines were used in 1956 and 1957 for the treatment of bronchitis, bron-

chiolitis, asthma, otitis media, and indeterminate infection. The sixth child was born prematurely, and tetracyclines were used prophylactically.

Increased use of tetracyclines since 1957 will probably result in more cases of yellow teeth being noticed in young children.

Because calcification of the crowns of the permanent teeth (excluding the third molar) is not completed until about 8 years of age, whenever possible antibiotics other than the tetracyclines should be used in children under this age.

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285 Prideaux Street

## abstracts

### TOOTH ANKYLOSIS

W. Biederman. *Am. J. Orthodont.*  
48:670, 1962.

Tooth ankylosis, the fusion of bone and cementum, is a progressive anomaly of tooth eruption which usually has a profound effect on the occlusion. Deciduous teeth become ankylosed far more fre-

quently than do permanent teeth, the ratio being better than ten to one, and mandibular teeth are ankylosed more than twice as often as maxillary teeth. Tooth ankylosis exhibits selectivity as to site (nearly all ankylosed teeth are molars, deciduous or permanent) and selectivity as to physiological times (nearly all ankyloses occur in the deciduous or mixed dentitions).

Tooth ankylosis is not likely to be of random or accidental origin; nor is excessive or traumatic pressure a probable cause, although the latter enjoys wide acceptance as a possible explanation. Tooth ankylosis may be due to disturbed metabolism.

Treatment depends upon whether the ankylosed tooth is deciduous or permanent, the time of onset, the time of diagnosis, and the location of the affected tooth. There are six possible situations:

1. If the ankylosed tooth is deciduous and has a successor, the general rule is to extract immediately, and if necessary, to insert an appropriate space maintainer.

2. If the tooth is deciduous and without a successor and the onset is early so that "submergence" is threatened, treatment involves extraction and space maintenance.

3. If the tooth is deciduous and without a successor and the onset is late, proximal and occlusal contacts may be built up at maturity.

4. If the ankylosed tooth is permanent and the onset is early, the tooth should be luxated. If repeated luxation proves ineffective, the tooth should be extracted. It should not be permitted to "submerge."

5. If the onset of ankylosis is late, the permanent tooth should be luxated. If the attempt is unsuccessful and the tooth does "submerge," it may be built up at maturity.

6. A deeply "submerged" ankylosed tooth, deciduous or permanent, should be left undisturbed unless it is infected or constitutes an immediate or potential threat to the occlusion.

#### AN EVALUATION OF MEPIVACAINE HYDROCHLORIDE

*F. S. Sadove, D. Vernino, F. Lock and S. Kolodny. J. Oral Surg., Anaesth. and Hosp. D. Serv. 20:399, September 1962.*

An earlier study comparing mepivacaine HC1 2 per cent (Carbocaine HC1) with

lidocaine HC1 2 per cent (Xylocaine HC1) with the addition of vasoconstrictors, indicated that mepivacaine without a vasoconstrictor was a superior local anaesthetic agent with rapid onset, good spreading characteristics and depth. The present clinical investigation was then undertaken on approximately 700 patients to determine the exact parameters of action of this new local anaesthetic, both with and without a vasoconstrictor, in dentistry.

A rigidly controlled double-blind technique was used in this evaluation. Lidocaine HC1 was chosen again for comparison because of its favourable local anaesthetic properties and its general acceptance in dentistry.

The duration of anaesthesia effected by mepivacaine HC1 2 per cent with vasoconstrictor was consistently longer than that of lidocaine HC1 2 per cent. The difference was statistically significant.

The addition of a vasoconstrictor to both anaesthetic solutions (levo-nordefrin 1:20,000, added to mepivacaine; adrenaline, 1:100,000, added to lidocaine) shortened to a small degree the time of onset and increased the duration of effect of both compounds.

Mepivacaine HC1 2 per cent without vasoconstrictor is significantly more effective in providing adequate anaesthesia of longer duration than lidocaine HC1 2 per cent without vasoconstrictor.

Mepivacaine HC1 2 per cent with levo-nordefrin 1:20,000 does not, however, provide a longer duration of anaesthesia than does lidocaine HC1 2 per cent with adrenaline 1:100,000. The difference between these solutions in incidence of adequate anaesthesia is not significant except during operative procedures, when mepivacaine HC1 2 per cent with levo-nordefrin 1:20,000 is more effective.

#### CHANGE OF ADDRESS

Subscribers to the *Journal of the Canadian Dental Association* should notify the Managing Director, 234 St. George Street, Toronto 5, Ontario, of their change of address before the 20th of the month, to become effective the following month.

## Prescription for survival

Dentists must either satisfy society's demands for dental services or risk being stripped of their professional freedom! These words were uttered by Toronto lawyer I. W. Outerbridge as a blunt warning to delegates at the recent national convention of the Canadian Dental Association. Said Mr. Outerbridge:

"You members of the profession can support your leaders in their attempts to fulfill their obligation or you can frustrate and prevent them . . . .

"You may surrender some of your individual liberties and professional freedoms to your own professional governing bodies (or) have it forcibly and suddenly stripped from (you) and placed in the hands of an independent governmental agency . . . subordinate to the political climate of the day . . . .

"The choice today is yours. Tomorrow you may have no choice at all."

These are strong words! And the medicine may seem like a hard one to swallow. But the problem is serious and demands swift action.

That is why the Canadian Dental Association is pressing for the establishment of dental service corporations and the development of profession-sponsored prepaid dental care plans for the public. That is why the Association supports vigorous measures aimed at increasing the number of dentists and auxiliary dental personnel. That is why the Association recommends that "properly qualified and

recognized dental auxiliaries could be trained to render a broader scope of service . . . under the direct supervision of a qualified dentist." And that is why the Association has repeatedly called for implementation on the widest possible scale of fluoridation and diagnostic-educational programs for preschool and school children.

It is clear that a solution lies not only in these measures, but, more particularly, in convincing the individual dentist that his continued existence is at stake. Indeed, much will depend on the attitudes developed by today's undergraduate students — the independent responsible practitioners or the regulated functionaries of tomorrow.

In this connection, some recent observations by G. H. Sperber,<sup>1</sup> based on a comparison of dental education in North American and British societies, seem highly significant. As Dr. Sperber points out, British dental educational institutions are usually attached to medical schools within a university, whereas their North American counterparts exist as independent university schools. This contrast is exemplified by the terms "dental hospital" in British terminology and "dental clinic" in North American terminology which designate the respective teaching institutions. British dental hospitals are historically derived from institutions which were established for the treatment of the indigent and for the relief of pain and suffering. They still exist primarily for the benefit of the patients. North



American dental (teaching) clinics, on the other hand, exist primarily for the benefit of the students. This difference is reflected, among other things, in the quality and quantity of patient material and in the attitude of students toward patients under each respective educational system.

Without delving into the relative merits of the two systems, one result of operating a school as a hospital with practically ever-open doors is to inculcate in students a strong sense of social responsibility. As Rushton<sup>2</sup> puts it: "The student be-

comes aware that much of the treatment he provides is not in his own immediate interest, will serve no examination requirement, and is merely part of the social service which his hospital has undertaken to supply."

Perhaps there is something of value here from our own standpoint.

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1. Sperber, G. H. A comparison of dental education and practice in North American and British Societies. *J. D. Educ.* 27:111, 1963.
2. Rushton, M. A. Dentistry and the universities. *Brit. D. J.* 108:64, 1960.

## Tetracycline and discoloration of teeth

In recent months public attention has been focused on phocomelia resulting from the use of thalidomide. These spectacular and tragic results are attributed to a drug that was tested and investigated at great length before it was released to the public. Such remote effects are always possible in medication and recall the classic admonition to medical students, "*Primum non nocere*" — i.e. first do no harm.

It is, therefore, interesting to find after several years of use that a medicament of proven clinical value can produce dental abnormalities. Tetracycline can cause severe discoloration of deciduous and permanent teeth. This has been well documented in cases where tetracycline was administered in the neo-natal and infancy periods. The discoloration can be described as yellow, orange, grey or brown.

Fluorescence has revealed that the discoloration is due to tetracycline incorporated in dentine and enamel. The deposition is so precise that growth studies utilizing tetracycline as a vital dye are possible. Bone, cementum, enamel and dentine show an affinity for tetracycline. Experimental studies have associated

tetracycline administration with reduced mineralization of hard tissues and inhibited skeletal growth. Deformed teeth have been reported in humans. It is interesting to observe that experimental evidence suggests that tetracycline effects can be transmitted by rats to their offspring and that the offspring show reduced caries activity.

Tetracycline has, therefore, revealed many new facets to its character. Several interesting questions now arise:

Should tetracycline be used freely to treat growing individuals?

Can tetracycline be utilized in caries prevention?

Can it help reveal more of the details of the caries complex?

Can tetracycline reveal more about human growth?

These new facets of the character of tetracycline will interest the clinician and temper his enthusiasm for this antibiotic. At the same time the researcher is provided with a new challenge and a new instrument.

W. H. F.

### Dental education fund progresses

The Canadian Fund for Dental Education has been receiving contributions from dentists and dental organizations across Canada in recent weeks. The Nova Scotia Dental Association at its recent annual meeting approved a grant of \$500 to the Fund. Past presidents of the Canadian Dental Association have contributed individually as suggested at their meeting held during the recent C.D.A. convention. Donations have also been received as living memorials for members of the association. Folders describing the Fund have been distributed to the dental profession. The folders are available from the secretary of the Canadian Fund for Dental Education, 234 St. George St., Toronto 5, Ontario.

#### MRS. KEENAN PASSES

Mrs. M. V. J. Keenan, wife of the Association's 1962-63 president, died in Sudbury, Ontario, July 26. Mrs. Keenan had been very active in many local organizations and took a prominent part in the ladies' program during the Canadian Dental Association convention in May. In the past year she had helped her husband in his many duties and commitments as president of the Association, the first time the national appointment was held by a Sudbury dentist. The sympathy of the Association has been expressed to Dr. Keenan and the family.

#### PROCTER AND GAMBLE GRANTS \$3,000

The Procter and Gamble Company of Canada Limited has made a further grant of \$3,000 to the Canadian Dental Association for use in dental research. In each of the past two years the company has contributed \$3,000 to support conferences of dental re-

search workers in Canada. Although no similar conference is planned for this year, the company offered the grant as a contribution to dental research.

#### NEW BOOKLET ON GROUP PRACTICE AVAILABLE

An informative booklet dealing with various aspects of dental group practice has been published by the Canadian Dental Association. Entitled *A Study of Group Practice in Dentistry*, this monograph was prepared by O. J. Yule, J. Kreutzer and A. H. Thomson on behalf of the Association's Dental Services Committee. This new publication should serve a useful purpose for dentists contemplating this form of practice. Copies may be secured from the Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

### Canada and the Provinces

#### ALBERTA'S PREPAID MEDICAL CARE PLAN BEGINS IN OCTOBER

Government subsidies for those with no taxable incomes and for those with less than \$500 taxable income will assist low income groups in enrolling in the Alberta Medical Plan which begins on October 1st. Indigent residents will continue to obtain medical care without cost under the province's welfare program. Premier E. C. Manning has announced that the plan will be open to all residents of the province.

Under the plan, comprehensive medical services will be available to all Albertans

TABLE 1 Monthly rates with government subsidies, Alberta prepaid medical care plan.

|                     | Maximum monthly premium | If no taxable income |                | If under \$500 taxable income |                |
|---------------------|-------------------------|----------------------|----------------|-------------------------------|----------------|
|                     |                         | Government subsidy   | Balance to pay | Government subsidy            | Balance to pay |
| One person          | \$ 5.25                 | \$1.50               | \$3.75         | \$ .75                        | \$ 4.50        |
| Family of 2         | 10.50                   | 3.50                 | 7.00           | 1.75                          | 8.75           |
| Family of 3 or more | 13.25                   | 6.00                 | 7.25           | 3.00                          | 10.25          |

through the physician of their choice and through an insurance firm of their own selection under a government-established maximum allowable premium. These benefits will be available on individual application or under group insurance plans.

Enrolment in the plan, which is voluntary, began on July 1.

Benefits under the plan provide for the payment of medical, surgical and obstetrical services of any physician when required for preventive, diagnostic or therapeutic treatment and care; specialist and consultant services defined under regulations; anaesthetist services; and necessary laboratory services and diagnostic aids including radiographs when ordered or provided by a medical practitioner. After a contract holder has been covered by the Alberta Medical Plan for a continuous period of two years, he and his dependants are entitled to an annual routine examination.

Among the exclusions listed are drugs, medicines and appliances; the examination of eyes for the fitting of eyeglasses; eyeglasses; dental care and radiographs for dental purposes; physiotherapy; and nursing services.

Underwriters of medical services insurance in the province must offer every resident who applies, one of the two following types of standard coverage:

1. comprehensive first-dollar coverage, or
2. the same coverage as in (a) except that the carrier will pay 80 per cent of the benefits in excess of an annual deductible of \$25. (The maximum deductible for a family will be \$50 in any year.)

The standard plan has been adopted by Medical Services (Alberta) Incorporated, largest purveyor of prepaid medical care in the province, and 31 private insurance companies are adding it to policies they regularly offer.

The Alberta government has fixed a maximum premium for all insurance companies

and below this maximum premium levels may vary according to the company. Initially, the maximum premiums for first-dollar coverage are \$63 a year for single persons, \$126 for married couples and \$159 for families with one or more dependants. Premiums for deductible coverage are \$42, \$84 and \$114 respectively. Many carriers will likely charge premiums less than these amounts. In fact, M.S.I., the physician-sponsored prepaid medical care plan, will charge contributions well below the maximum level.

Government subsidies will vary from 75 cents to \$6 per month (Table 1). These subsidies are intended to favour families rather than single individuals. Whereas the family subsidy is about one-half of the contribution that will be charged by M.S.I. for first-dollar coverage, the single subsidy is only one third.

Every resident of Alberta will be able to purchase whatever form of medical care insurance that he wishes, except that those residents entitled to be subsidized by the provincial government must take out the comprehensive first-dollar coverage if they wish to claim the subsidy.

An interesting feature of the plan is that carriers must provide comprehensive coverage at a rate of contribution not greater than a stated maximum. This maximum contribution will, in fact, be considerably lower than the actual cost of benefits provided to older residents and those in poor health. Arrangements have been made, however, for these excess costs to be pooled and shared amongst all carriers writing medical care coverage in the province. A particular carrier's share of these losses will be determined by the amount of business that it has in force in the province, so that even if a particular carrier does not cover any of the bad risks, it will, nevertheless, be charged with a proportionate part of the excess costs.



## KILBURN RETIRES AS D.V.A. DENTAL DIRECTOR

L. A. Kilburn, director of Dental Services in the Department of Veterans Affairs, retired July 26 after 17 years' service with the federal government department. He is succeeded by D. M. Tanner of Toronto.



L. A. Kilburn

Dr. Kilburn first studied forestry engineering at the University of New Brunswick. Following World War I service in Canada and abroad, he decided on a change in profession and in 1919 entered the dental school of the Royal College of Dental Surgeons of Ontario. Upon graduation in 1923 he practised in Hamilton until 1941, and from 1928 to 1941 he was also assistant professor of Dental Economics in the Faculty of Dentistry, University of Toronto.

In 1942 Dr. Kilburn again went on active service with the Canadian Dental Corps, and served in Canada until his retirement in 1946 with the rank of lieutenant-colonel.

Dr. Kilburn joined the Department of Veterans Affairs as a dental officer in Hamilton, and in 1948 he became director of D.V.A. Dental Services at headquarters in Ottawa.

Dr. and Mrs. Kilburn will now reside in Oakville, Ontario.

## UNIVERSITY PRESIDENT HEADS ONTARIO MEDICAL INSURANCE COMMITTEE

A university president with a background in advertising and public relations will head an independent committee to advise the provincial government on a medical care insurance plan for Ontario.

J. G. Hagey, 58, president and vice-chancellor of the University of Waterloo,

was appointed committee chairman recently by Premier John Robarts.

Other members representing physicians, insurance, labour, hospitals and consumers are to be named to the committee in due course. It will have 10 to 12 members.

The committee's job will be to study a bill concerning medical services insurance that was introduced by the government in the legislature at the past session. The bill, intended merely as a basis for discussion, did not receive third reading.

Briefs will be invited from all interested groups.

Mr. Robarts said that if the committee reports before the next session of the legislature the government will then proceed to introduce and implement legislation for medical care insurance.

## CURB DENTAL FEES IN BRITISH COLUMBIA?

"The British Columbia College of Dental Surgeons has been given the right to prevent a dentist from taking too big a bite out of a patient's pocketbook." So says the *Toronto Globe and Mail* in a news item published on June 26.

"A regulation approved by the cabinet . . . amended the province's Dentistry Act to give the College the right to suspend a member for shoddy work and to review the bills he sends out. A patient who considers his bill too high can appeal to the College within 30 days of receiving it. The College may set a fair figure if it feels the bill is too high. . . ."

## International Items

### MÜLLER OF GERMANY IS NEW F.D.I. PRESIDENT

Erich Müller of Germany was installed as president of the Fédération Dentaire Internationale at the 51st annual session in Stockholm, Sweden, June 29 to July 6. Knut Gard of Norway was chosen president-elect. Officers re-elected include G. H. Leatherman of England as secretary-general for three years; Jack Stork of the Netherlands as treasurer for three years; and L. M. Ennis of Philadelphia as vice-

president. Harold Hillenbrand, secretary of the American Dental Association, was also named a vice-president.

Among the more than 1,300 attending the Stockholm meeting were Canadian Dental Association past president J. P. Whyte of Swift Current, Saskatchewan, and secretary Don W. Gullett.

Prince Bertil of Sweden, who presided at the opening ceremony, praised Federation efforts to curb oral diseases. He said that the "collaboration of the Federation with the World Health Organization has been a major factor in the improvement of dental health throughout the world."

Beginning with the speaker's reception, a well-rounded scientific and social program kept delegates on the move from Saturday, June 29 to the closing functions on July 6. Social events included the president's reception for supporting members at the Swedish National Art Gallery, a visit to Millesgården to view the sculpture of the late Carl Milles, a sightseeing trip under the bridges of Stockholm and a visit to the Wasa Museum; an organ recital in the Cathedral, a banquet and ball in the Golden Hall of Stockholm's City Hall, a cruise in the Stockholm Archipelago, a performance at the Royal Court Theatre of Drottningholm Palace, as well as a fashion show and sightseeing tours of Stockholm.

Themes for the formal program were: biological aspects of prosthetic dentistry; oral health of the aged; microbiology of periodontal disease; and specialization in dentistry.

With the addition of dental associations in Cuba, Iran and Thailand the membership of the Federation now stands at 62 national dental associations in 52 countries, in addition to which there are three affiliate members. There are also 4,794 individual supporting members.

The general assembly approved a budget in excess of £29,000 for the year 1964. Also adopted were a specification for dental casting gold alloy—this is the seventh official standard adopted by the Federation—as well as measures to compile a history of the Federation from 1900 to 1962—to be published in time for the 1967 World Dental Congress in Paris.

The general assembly also approved continuation of the Special Commission on the Dentist's Health under the chairmanship of J. Charon (France) and the Special Commission on Oral and Dental Statistics under the chairmanship of L. J. Baume (Switzerland). By resolution, the Federation called on the World Health Organization to study malignant disease affecting the mouth and jaw and to convene a meeting for the purpose of establishing internationally accept-

able minimum standards of dental education.

This was the first F.D.I. meeting in Stockholm in 26 years. Next year, the Federation will hold its 52nd annual session in San Francisco, November 7-14, in conjunction with the 105th annual session of the American Dental Association. F.D.I. headquarters will be the Del Webb's Towne House, one block from the civic auditorium where the scientific program and exhibits are to take place. Applications for hotel accommodation are being handled by the American Dental Association's Housing Bureau at 222 East Superior Street, Chicago 11, Illinois, U.S.A.

The scientific program will begin on Monday, November 9 and end on Thursday, November 12. Scientific and commercial exhibits will open at noon on Sunday, November 8. Dentists desiring to present a clinical lecture (20 minutes, illustrated with slides), table clinic, scientific exhibit, motion picture, or participate in a "free-time" discussion (limited to ten minutes) should apply to the Council on Scientific Session, American Dental Association, 222 East Superior Street, Chicago 11, Illinois, U.S.A., stating the type of presentation they wish to make. Participation in the essay program is by invitation only and applications to present essays cannot be accepted.

Simultaneous translation will be provided in English, French, German and Spanish for the business meeting of the F.D.I., the opening meeting, and parts of the scientific program.

No enrolment fees are payable for the meeting but there will be a fee for certain of the social events.

## SWEDEN CONTINUES FLUORIDATION STUDY

A five-year extension of the 10-year fluoridation study, halted last year in Norrköping, Sweden, by the Supreme Administrative Court, has been granted through a special amendment to Sweden's Health Act. As a result of the amendment, communities with adequate waterworks controls will be permitted to fluoridate their drinking water with the consent of the Royal Medical Board in Stockholm.

## AUSTRALIAN DENTAL CONGRESS SLATED FOR PERTH

Perth, Western Australia, will be the site of the Seventeenth Australian Dental Congress, May 25-29, 1964, it was recently announced



The University of Western Australia at Perth will be the site of the 17th Australian Dental Congress, May 25-29, 1964.

by the Australian Dental Association. The meeting will be held at the University of Western Australia, situated near the beautiful Swan River, a short distance from the city.

The program features a number of prominent overseas lecturers including J. E. Ziegler of California, R. W. Phillips of Indiana, and B. E. D. Cooke of Cardiff, Wales, as well as distinguished Australian clinicians.

The congress will be followed immediately by the Second Congress of the Australian Society of Orthodontists.

Further information may be obtained from K. F. Henderson, honorary secretary, Seventeenth Australian Dental Congress, 242 St. Georges Terrace, Perth, Western Australia.

#### CHARTER FLIGHT TO BRITISH DENTAL CONVENTION

A chartered flight for members of the Canadian Dental Association and their immediate families who wish to attend the Annual Conference of the British Dental Association in London, England, June 29 to July 3, 1964, is being planned by a Stirling, Ontario dentist. The flight will originate from Toronto provided a sufficient number of applications are received. The provisional round trip fare is estimated at \$350. Further information may be obtained from J. Jagaciak, P.O. Box 63, Stirling, Ontario.

#### DENTAL PLANS COVER MILLION AMERICANS

More than one million United States residents are covered by some type of prepaid

dental care plan, according to an official of the U. S. Public Health Service. In 1960 about 550,000 people had coverage under dental prepayment plans compared with more than 1,145,000 today. Over the same period the number of plans has more than doubled from 125 to 296. Plans operate in 30 states and Puerto Rico.

#### NEW YORK DENTAL INSURANCE PLAN SEIZED, OFFICERS ARRESTED

Control of the Dental Insurance Plan, Inc., covering 150,000 subscribers in New York State, has been seized by the State Department of Insurance and placed in rehabilitation. The plan has been charged with a total financial deficiency of \$290,224, of which \$193,337 is described as deficit and \$96,887 as a required reserve that has not been maintained.

Rehabilitation was explained as a remedy short of bankruptcy to restore the company to a sound financial position. If that cannot be accomplished, according to the deputy superintendent of insurance, the company will be liquidated.

Most of the plan's subscribers are in New York City. A recent publication by the insurance plan lists twenty participating union groups and fourteen management groups. The list also includes a group of city employees.

Five of the plan's officers, including two dentists, have been removed and arrested since the state takeover began. Every effort will be made to protect the interests of those covered by the various D.I.P. plans. However, it is impossible to say at the moment what a further review of the financial capacity of the plan will reveal.



The state investigators learned that claims filed by many of the plan's 7,000 participating dentists had not been paid. A total of \$394,871 in unpaid claims was reported in the court affidavit, which also listed \$501,341 in assets and \$694,678 in liabilities.

Founded in 1956, the plan has never been approved by the Dental Society of the State of New York. It is not connected with Blue Cross-Blue Shield Plans or with several other dental plans.

Two union welfare fund dental care plans administered by the Dental Insurance Plan, Inc., New York, have since been assumed by Continental Casualty Company, effective retroactively to May 1, 1963.

### NEW GROUP DENTAL SERVICE PLAN TO BE OFFERED IN NEW YORK

A group dental service plan will be offered shortly in New York City and 12 nearby counties by the New York Dental Service Corporation and the New York Blue Cross, according to M. L. Dollar, N.Y.D.S.C. executive director. The corporation will design the contracts and process the payment of claims, and Blue Cross will act as agent for sales and collections. A sales force will be maintained also by the corporation.

Over 10,000 of the state's 12,000 practising dentists have signed contracts to participate.

The plan will provide coverage for comprehensive dental services to groups of 25 or more, provided that a minimum of 75 per cent enroll. Benefits will be offered in three segments: a basic and two optional plans. Monthly costs will range from \$1.84 for an adult and \$1.34 for a child under the most limited plan to \$4.73 for an adult and \$3.37 for a child under the most comprehensive plan.

### NEW YORK SYMPOSIUM ON DENTISTRY FOR CEREBRAL PALSIED PATIENTS

A symposium outlining for the general practitioner some guidelines used in the management of the physically limited patient will be presented at the annual scientific meeting of the Dental Guidance Council for Cerebral Palsy at the Statler Hilton Hotel, New York City, November 11. Panelists and their subjects include: Abraham Kobren, "Changing practices and evolving trends in dentistry today for our physically limited patient;" S. S. Rosenstein, "Office management (operative dentistry and endodontics) of the physically limited patient;" A. I.

Chasens, "Office management (periodontics and oral hygiene) of the physically limited dental patient;" and S. S. Silverman, "Office management (crown and bridge, full and partial prosthesis) and home dental care of the physically limited patient." Further information may be obtained from Marvin King, 141 East Fortieth Street, New York 16, New York, U.S.A.

## Dental Organizations

### B.C. COLLEGE NAMES OFFICERS

The Council of the College of Dental Surgeons of British Columbia which assumed office in July has chosen these officers: W. P. Munsie, president; M. Nacht, registrar; D. H. Warren, treasurer; L. E. English, B. Kjekstad and D. J. Yeo, executive members; D. H. Warren, W. G. Newby and J. G. Ryan, advisory members.

In order that British Columbia dentists may be better informed of the Council's activities, it was decided that synopses of all minutes be published in the *B.C.D.A. News Bulletin*.

Eleven dentists passed the written and clinical examinations held in June for licence to practise in British Columbia. Two dental hygienists were also successful in their examinations. In addition two National Dental Examining Board certificate holders were accepted for registration by the College of Dental Surgeons of British Columbia.

### EVENDEN IS PRESIDENT OF REGINA SOCIETY

J. G. Evenden became the new president of the Regina and District Dental Society on June 18 when results of elections were announced. A. W. Geisthardt was named vice-president. J. Kanee and J. A. B. Robinson were named secretary and treasurer respectively.

Retiring president J. G. Mitchell reported on society activities during the past year. R. O. Brett, Saskatchewan delegate to the Board of Governors of the Canadian Dental Association, presented a tape recording of the recent annual meeting of the Board held in conjunction with the national convention in Toronto.

Introduced at the same meeting was D. Dionisio, recently appointed dentist to the health department of the city of Regina.

### YORKTON ASSOCIATION HONOURS HAUGHTON

W. A. Haughton, prominent Yorkton, Saskatchewan, dentist, was recently honoured by the Yorkton Dental Association on the occasion of his retirement from active practice. At a special dinner tendered in his honour, Dr. Haughton was presented with a silver tray, vase and candlestick holders.

Born in London, England, Dr. Haughton received his early education there and in Cairo, Egypt. He came to Canada in 1907. Following graduation from the Royal College of Dental Surgeons of Ontario and University of Toronto in 1924, Dr. Haughton established a practice in Winnipeg. He joined the Canadian Active Service Force in 1941, serving as captain in No. 30 Company, Canadian Dental Corps. Retiring from active service in 1944, Dr. Haughton purchased a practice in Yorkton, Saskatchewan, where he practised until his recent retirement. Dr. and Mrs. Haughton intend to reside in Winnipeg in future.

### FEJES HEADS ESSEX COUNTY ASSOCIATION

J. M. Fejes of Windsor was recently named president of the Essex County Dental Association of south-western Ontario. At the last general meeting held on May 30 the following were named to the executive: F. J. Furlong of Windsor, vice-president; A. W. Lampe of Windsor, treasurer; and E. J. Paslawsky of Leamington, secretary.

### NEW GRADUATES LICENSED IN QUEBEC

Forty-two new graduates—28 from the Université de Montréal and 14 from McGill University—received their licences at a special ceremony, June 1, at the Université de Montréal. Welcoming the new practitioners were president Henri Brouillet and G. M. Dundass of the Quebec College of Dental Surgeons, as well as Dean James McCutcheon and Dean Jean-Paul Lussier of McGill and Montreal Universities respectively. College registrar R. M. LeBlanc administered the oath to each registrant.

### OVER 200 ATTEND ATLANTIC MEETING

Over 200 dentists, their wives, and exhibitors attended the Atlantic Provinces Dental

Convention in Fredericton, New Brunswick, June 30-July 3. R. H. Dolan, president of the New Brunswick Dental Society, presided at the sessions. W. B. O'Brien of Fredericton was in charge as convention chairman.

Clinicians and their subjects included James Sim of St. Catharines, Ontario, "Periodontics in general practice;" D. B. McAdam of Toronto, "Silver amalgam restorations;" Donald Kepron of Montreal, "Minimizing frustrations in prosthetics" and "Prosthodontics aided by oral surgery;" and J. J. McCarthy of Montreal, "Maxillary sinus problems." Ten table clinics were featured on the program.

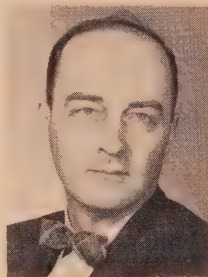
Special speakers included Mayor W. T. Walker of Fredericton; B. L. Jewett, president of the New Brunswick Medical Society; J. T. Staddon of Canadian Dental Association Pension and Insurance Plans; and H. K. Brown, recently retired dental consultant to the Department of National Health and Welfare.

Honoured during the convention were G. R. Lister, senior practising dentist in Fredericton, and R. J. Dolan, director of cancer control for the New Brunswick provincial health department.

Passed at the meeting was a resolution giving full support to fluoridation of public water supplies as a deterrent to tooth decay.

L. I. Duffy of Charlottetown, extended on behalf of the Dental Association of Prince Edward Island an invitation to attend next year's Atlantic meeting in the island province.

### NOVA SCOTIA DENTISTS MEET



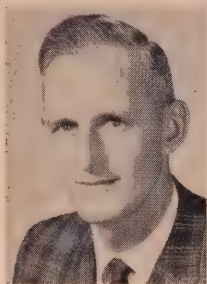
W. M. Macneil

Dentists from various parts of the province attended the annual meeting of the Nova Scotia Dental Association in Halifax, June 8. Tribute was paid to the retiring president, H. P. MacCormack of Truro. The resignation of former secretary A. A. Dunlop, who gave six years of service in that office, was ac-

cepted with regret. Dr. Dunlop was commended for his faithful service to the association. Replacing Dr. Dunlop is W. H. MacNeil of Halifax, who also accepted appointment as provincial associate editor of the *Journal of the Canadian Dental Association*. A graduate of St. Francis Xavier and Dalhousie Universities, Dr. MacNeil is a past president of the Halifax County Dental Society and the Nova Scotia Dental Association. He is on the staff of the De-

light wire." Both topics dealt with newer concepts and modifications of the Begg Technique as developed by Kesling.

Presentation of a motion picture, "Cephalometric radiographic technique and analysis," produced at University of Iowa Dental School, was another feature of the program. W. O. Mulligan of Saint John closed the meeting with a review of requirements for certification by the American Board of Orthodontics.



J. F. Burke

partment of Oral Surgery, Faculty of Dentistry, Dalhousie University and at the Victoria General Hospital, Halifax. President of the Nova Scotia Dental Association is J. F. Burke of Sydney.

### BONANG EDITS NOVA SCOTIA NEWS LETTER

D. J. Bonang of Halifax has been named editor of the *N.S.D.A. News Letter*. He replaces J. E. Merritt who served as editor since the *News Letter* was instituted by the Nova Scotia Association five years ago. Announcing the new appointment recently, the Committee on Publications for the Nova Scotia Dental Association praised Dr. Merritt for his devoted services as charter editor of the association's publication.

### ATLANTIC ORTHODONTISTS MEET

Nearly a dozen members and guests attended the sixth annual meeting of the Atlantic Orthodontic Study Club, held in conjunction with the Atlantic Provinces Dental Convention at Fredericton, July 1-2.

J. L. Bertrand of the Orthodontic Department, Université de Montréal, addressed the audience on the "Philosophy of the Begg Technique" and "Differential forces with

## Canadian Dental Schools

### UNIVERSITY OF BRITISH COLUMBIA

Three new appointments to the Faculty of Dentistry at the University of British Columbia were recently announced by President J. B. Macdonald.

A total of five persons have now been appointed to the university's newest faculty which plans to enrol its first class of students in 1964. Already appointed are Dean S. Wah Leung and G. J. Parfitt, who will head the Department of Oral Medicine.

The new appointments are Leon Krantz as associate professor in the Department of Oral Biology; R. H. Roydhouse as assistant professor in the Department of Restorative Dentistry, and D. G. Middaugh as instructor in the Department of Oral Biology.

Dr. Krantz, who is currently a visiting professor of biology at the University of St. Thomas in Houston, Texas, is a graduate of Harvard University, where he received his bachelor of arts degree in 1947, and the Rice Institute in Houston, where he was awarded his master of arts degree in 1952 and his doctor of philosophy degree in 1954. Since 1956 Dr. Krantz has been an assistant and associate professor of physiology at the University of Texas dental branch.

Dr. Roydhouse, a native of New Zealand, joins the U.B.C. faculty after service as a senior research fellow at the Eastman Dental Dispensary in Rochester, New York, where he carried out research in dental restorative materials. Dr. Roydhouse graduated from the University of New Zealand with the degree of bachelor of dental surgery in 1951. He carried out graduate work and lectured at the University of Otago Dental School in Dunedin, New Zealand, until 1959 when he was invited to lecture at Northwestern University Dental School in Chicago.

Dr. Middaugh, currently in private practice in Minneapolis, Minnesota, is a graduate



of the University of Minnesota, where he received his bachelor of arts degree in 1955 and his doctor of dental surgery degree in 1961.

## UNIVERSITY OF TORONTO

*Second Annual Box Memorial Lecture.*—L. R. Cahn, professor of Oral Pathology at the Faculty of Medicine, Columbia University, will deliver the second annual Harold Keith Box Memorial Lecture at 8.15 p.m. on Tuesday, October 15 in the auditorium of the Faculty of Dentistry, University of Toronto. Dr. Cahn's subject will be "Geno-Stomatology." He will discuss diseases which are the result of inheritance, whether of dominant or recessive trait. Bone dysplasias affecting the jaw, mucosal changes, and certain blood dyscrasias with manifestations in the mouth which are related to inherited influences will be illustrated and discussed.

Dr. Cahn is the author of the text, *Pathology of the Oral Cavity*, as well as two other texts and many articles in the periodical literature.

## Royal Canadian Dental Corps

### COLONEL MILLAR RECEIVES NEW APPOINTMENT

Colonel I. A. L. Millar who has served as Director of Dental Services (Navy) for the past two years has recently been appointed as Deputy Director General of Dental Services, for the Canadian Forces.

### SCHOOL COMMANDANT RETIRES

Colonel C. E. Purdy of Toronto, who was appointed Commandant of the Royal Canadian Dental Corps School in July 1961 has retired from the Canadian Army following 21 years of military service.

Graduating from the University of Toronto in 1933, Colonel Purdy left private practice in 1942 for service with the Canadian Dental Corps. Before his tour in Camp Borden he served for four years as Commanding Officer of No. 14 Dental Company, Winnipeg. Colonel Purdy has accepted a position on the staff of the University of Toronto's dental faculty.

### LT.-COL. CRUMMEY RETIRES

After 23 years of continuous service Lt.-Col. O. W. Crummev has retired from the Canadian Army.

A 1938 graduate of Dalhousie University, Lt.-Col. Crummev was commissioned in the Canadian Dental Corps in May 1940 and following his wartime tour overseas has served at various locations across Canada. Following his appointment as the Commanding Officer of No. 1 Field Dental Unit in Germany from 1955 to 1957, he was posted to Edmonton, where he has served as senior clinician at Griesbach Barracks.

### SHORT SERVICE OFFICERS TAKE RELEASE

Officers who have recently taken their release from the Corps and returned to civilian practice include Captains L. J. E. Bosse, W. B. Hudgins, M. A. J. Lachapelle, A. G. MacKenzie and H. C. Stewart. Major W. R. Cunningham has ceased his call-out from the Militia.

### EIGHTEEN NEW GRADUATES ON INITIAL POSTING

Graduating classes of four Canadian Universities have added eighteen new captains to the strength of the Corps. The following listing indicates their university and place of employment; Capt. L. W. Armstrong, Alberta, Fort Churchill; Capt. G. E. Brissette, Montreal, H.M.C.S. Cornwallis; Capt. J. H. G. Charron, Montreal, No. 3 Detachment Royal Canadian Army Medical Corps, Quebec City; Capt. J. C. L. Giguere, Montreal, R.C.A.F. Station Namao; Capt. J. L. Girard, Montreal, R.C.A.F. Station Winnipeg; Capt. G. W. Hill, Alberta, R.C.A.F. Station Cold Lake; Capt. R. W. R. Horn, Toronto, R.C.A.F. Station Clinton; Capt. J. M. M. Houde, Montreal, Headquarters No. 15 Dental Company, Montreal; Capt. M. B. Krickan, Alberta, H.M.C.S. Naden; Capt. W. R. Kyle, Toronto, R.C.A.F. Station Camp Borden; Capt. R. M. MacDonald, Dalhousie, R.C.A.F. Station Trenton; Capt. C. M. Mason, Alberta, Griesbach Barracks, Edmonton; Capt. P. R. McQueen, Alberta, Camp Valcartier; Capt. R. T. Mori, Alberta, R.C.A.F. Station Trenton; Capt. D. R. O'Hara, Toronto, R.C.A.F. Station Rockcliffe; Capt. A. N. Swanzy, Dalhousie, H.M.C.S. Stadacona; Capt. M. D. Taylor, Alberta, R.C.A.F. Station Saskatoon; and Capt. P. S. Wade, Toronto, R.C.A.F. Station St. Jean.

## DENTAL OFFICERS PROMOTED

The following promotions have been announced by Army Headquarters: Lt.-Col. R. H. G. Cunningham to Colonel, Major J. C. Brick to Lieutenant-Colonel, Major L. R. Pierce to Lieutenant-Colonel, Captain D. J. MacPhee to Major and Captain W. A. Sugars to Major.

Colonel Cunningham, a native of Toronto and a 1940 graduate of the University of Toronto was commissioned in 1941. He commanded No. 4 Field Dental Company from December 1957 to July 1960 and later served as Senior Consultant at R.C.A.F. Station Trenton. Colonel Cunningham was recently appointed as Commanding Officer of No. 12 Dental Company, Halifax.

Lt.-Col. Brick was born in Windsor, Ontario. Following his wartime service as an officer in the Signals Corps, he graduated in dentistry from the University of Toronto in 1949 and was commissioned in the Corps later that year. He is currently serving as Senior Clinician at the Air Force Headquarters Clinic in Ottawa.

Lt.-Col. Pierce, originally from Tillsonburg, Ontario, is another 1949 graduate of the University of Toronto at which time he received his commission. After spending the last four years at R.C.A.F. Station Clinton, Lt.-Col. Pierce was recently posted as Senior Clinician to H.M.C.S. Naden Esquimalt, British Columbia.

Major MacPhee, a native of Summerside, Prince Edward Island, graduated from McGill University in 1956 and is now serving with No. 4 Field Dental Company in Germany.

Major Sugars from Montreal, graduated from McGill University in 1937. Following wartime service with the Corps he returned to civilian practice until 1956 when he was re-enrolled in the Regular Force. Major Sugars is currently employed at R.C.A.F. Station St. Hubert.

## CHANGES IN LOCATION

Summer postings have affected the following officers:

Colonel G. R. Covey, Director of Dental Services (Navy), at the Directorate has been appointed Commandant of the R.C.D.C. School, Camp Borden, replacing Colonel C. E. Purdy.

Colonel A. C. Leman has been posted to the Directorate as Director of Dental Services (Air) from Trenton where he was Commanding Officer of No. 13 Dental Company.

Colonel A. T. Roger has relinquished command of No. 12 Dental Company, Halifax, and has been appointed Commanding Officer of No. 13 Dental Company, Trenton.

Lt.-Col. C. M. Cornish, who has served for the past two years as Senior Clinician at the R.C.A.F. Headquarters Clinic, Ottawa, has been posted to R.C.A.F. Station Trenton as Senior Clinician.

Lt.-Col. G. C. Evans, former Commanding Officer of No. 4 Field Dental Company, Germany, has been posted to Army Headquarters, Ottawa, as a Deputy Director of Dental Services.

Lt.-Col. G. MacDougall has been appointed Commanding Officer of No. 4 field Dental Company and transferred to Germany from H.M.C.S. Naden where he served as Senior Clinician.

Lt.-Col. J. W. Turner, on completion of a two-year exchange posting at the U. S. Naval Dental School, Bethesda, Maryland, returned to the R.C.D.C. School at Camp Borden where he has been appointed Chief Instructor.

Other transfers include:

Major W. H. Carter to R.C.A.F. Headquarters Clinic, Ottawa, from R.C.A.F. Station Cold Lake.

Major T. D. Cobb to Camp Gagetown from Griesbach Barracks, Edmonton.

Major J. L. Craig to No. 35 Field Dental Unit from R.C.A.F. Headquarters Clinic, Ottawa.

Major J. I. Gordon to R.C.A.F. Station North Bay from R.C.A.F. Station St. Hubert.

Major W. H. Harrington to No. 6 Personnel Depot (H.L.) Toronto from No. 35 Field Dental Unit.

Major A. T. Hinch to R.C.A.F. Station Cold Lake from No. 35 Field Dental Unit.

Major A. L. Kelland to the R.C.D.C. School from Canadian Base Units Middle East.

Major L. E. Kelly to R.C.A.F. Station Comox from No. 4 Field Dental Company.

Major J. A. Lauziere to R.C.A.F. Station Uplands from Fort Osborne Barracks, Winnipeg.

Major D. E. McDermott to No. 35 Field Dental Unit from Camp Gagetown.

Major R. J. K. Pyne to Canadian Base Units Middle East from R.C.A.F. Station Comox.

Major M. P. Quinn to H.M.C.S. Bonaventure from Headquarters, British Columbia Area, Vancouver.

Major C. J. Sivell to Griesbach Barracks from No. 35 Field Dental Unit.

Major J. J. N. Wright to R.C.A.F. Station Clinton from the R.C.D.C. School.

Capt. N. H. Andrews to Portage la Prairie from R.C.A.F. Station Winnipeg.

Capt. J. O. L. Bourget to No. 35 Field Dental Unit from Canadian Base Units Middle East.

Capt. M. D. G. Conrad to H.M.C.S. Stadacona from Canadian Base Units Middle East.

Capt. J. L. Y. Cyrenne to Canadian Base Units Middle East from Royal Military College, Kingston.

Capt. P. A. Dailyde to H.M.C.S. Cape Breton from Griesbach Barracks.

Capt. J. F. Eadon to No. 4 Field Dental Company from R.C.A.F. Station Penhold.

Capt. W. J. Froese to Camp Petawawa from Fort Churchill.

Capt. B. A. Gaudet to Headquarters, British Columbia Area, Vancouver, from No. 3 Detachment, Royal Canadian Medical Corps, Quebec City.

Capt. J. H. Marion to No. 35 Field Dental Unit from Camp Valcartier.

Capt. N. A. McFarlane to R.C.A.F. Station Cold Lake from H.M.C.S. Cornwallis.

Capt. R. J. Paturel to Canadian Base Units Middle East from Royal Canadian School of Military Engineering, Vedder Crossing.

Capt. L. A. Reynolds to No. 4 Field Dental Company from R.C.A.F. Station North Bay.

Capt. J. B. Wilcock to R.C.A.F. Station Vancouver from R.C.A.F. Station Namao.

## Public Health

### NATURAL FLUORIDE BENEFITS INGERSOLL CHILDREN

Children born and reared at Ingersoll, Ontario, where the water supply contains a relatively high level of fluoride (1.7 ppm) have a low level of caries experience. This conclusion results from a survey in 1962 by H. K. Brown, former dental consultant to the Department of National Health and Welfare, who conducted the Brantford-Stratford-Sarnia caries fluorine study since 1947. Although the children in the two naturally fluoridated cities, Ingersoll and Stratford (1.6 ppm), and in the mechanically fluoridated city, Brantford (1.1 ppm), have dental caries attack rates that are markedly lower than those observed among Sarnia children, some differences of lesser magnitude have been observed among the three fluoridated

cities. These differences appear to be related in part to the amount of fluoride in the water. Dr. Brown also feels that some other unrecognized factors may play a role.

### SABIN BACKS FLUORIDATION

A. B. Sabin, originator of the oral poliomyelitis vaccine, supports the fluoride adjustment of domestic water as a safe and effective means of preventing dental caries. This is what Dr. Sabin said recently: "In some parts of the United States, people have been drinking water which naturally contains one to two parts of fluoride per million all their lives without any harmful effect from it but with definite evidence of decreased prevalence of dental caries. The artificial fluoridation of water supplies merely imitates what nature has been doing for a long time, and hundreds of communities throughout the world, inhabited by millions of people using this procedure have found it both safe and effective in significantly reducing the number of dental cavities. I am strongly in favour of water fluoridation as a highly beneficial and safe public health procedure."

### O'MEARA HEADS PUBLIC HEALTH DENTAL GROUP

B. J. O'Meara of Charlottetown, Prince Edward Island, was named chairman of the Dental Health Section at the recent annual meeting of the Canadian Public Health Association in Winnipeg, May 29. Named as vice chairman was W. Zacherl of Edmonton. R. S. Langstroth of Fredericton is secretary. R. A. Connor of Winnipeg was elected to the Executive Council of the Canadian Public Health Association, and G. T. Mitton of Toronto was named dental representative to the C.P.H.A. Committee on Remuneration of Public Health Personnel.

### DENTAL PUBLIC HEALTH WORKSHOP PLANNED

Rutgers University and the Colgate-Palmolive Research Centre at New Brunswick, New Jersey, will be the site of a workshop on teaching of dental public health, December 4-6. A supporting grant from Colgate-Palmolive enables one representative from each dental school in the United States and Canada to attend.

The purpose of the workshop is to establish objectives of undergraduate teaching in



dental public health. On the basis of these objectives, it is hoped that an improved course content can be developed which will bring to the students a better realization of their responsibilities as members of a health profession in the community. J.-P. Lussier, dean of dentistry at the Université de Montréal and chairman of the Canadian Dental Association's Council on Education, has been named a group leader. Other Canadians participating in the workshop are C. W. B. McPhail, University of Alberta; G. H. G. Weinlander, McGill University; W. G. Dawson, Dalhousie University; T. L. Marsh, University of Manitoba; G. T. Mitton, Toronto;

and C. A. E. McCabe, Université de Montréal.

### C.P.H.A. URGES FLUORIDATION

At its recent meeting in Winnipeg, the Canadian Public Health Association urged public approval of fluoridation. By resolution, the C.P.H.A. strongly urges and advises "communities having a fluoride-deficient water supply to adjust the fluoride content to the optimum level of approximately one part per million as an essential component of a dental health program.

## book reviews

### A TEXTBOOK OF ORAL PATHOLOGY

W. G. Shafer, M. K. Hine and B. M. Levy. Ed. 2. Philadelphia and London, W. B. Saunders, 1963. (Available from McAinsh and Co. Ltd., Toronto and Vancouver) 768 p. Illus. \$18.40

The first edition of this book appeared in 1958 and immediately established itself in the front rank of texts in oral pathology. In this new second edition the authors have revised and rewritten parts and have added new material. One of the very interesting additions is the new section dealing with hereditary oral diseases, presented as a compilation of the considerable advance in the field of genetics that has been made in recent years.

The book is divided into five main sections as follows: disturbances of development and growth; diseases of microbial origin; injuries and repairs; disturbances in metabolism and diseases of specific systems. These are further subdivided into chapters that together cover the field of oral pathology as it is envisaged today. As a reference, it will serve the needs of all but the advanced researcher and can be

read a chapter at a time with pleasure and profit.

The authors are well-known in their fields and present the material in an authoritative manner. The text is supported by hundreds of illustrations, some of them in colour.

This is an important book in its field and taken all in all, is very well presented.

H. A. Hunter

### DENTAL EXAMINATION REVIEW BOOK. VOLUME 1: ORAL PATHOLOGY, ORAL ROENTGENOLOGY, PERIODONTICS

A. F. Gardner. New York, Medical Examination Publishing Co. Inc., 1963. 222 p. \$6.00

The author states: "There are no short-cuts to the process of learning! The material on the following pages is not designed to provide the reader with an opportunity to escape from learning basic information that can only be obtained from textbooks of dentistry. Indeed the purpose of this text is

to encourage the reader to detect areas of weakness in his understanding of scientific data so that he may return to his texts for a more comprehensive review of the subject."

The author further states "The . . . test material will give you an opportunity to determine your ability to read, digest and comprehend the vast accumulation of data."

The book is composed generally of questions followed by five possible answers. The student (for whom the book is primarily intended) must select the answer most appropriate. Obviously the answer to many questions is not "A," "B," or "C," etc. but a combination. Despite the warning given by the author in his introduction, many students will probably not refer to the references quoted but will accept the so-called answer taken out of context. Despite the apparent value of such a review book, this reviewer — a part-time teacher — feels that the reader must be continually aware of these problems. Under these circumstances then the book can be of considerable value to the student and graduate dentist.

R. F. Harvey

## PEDODONTICS

R. E. McDonald. St. Louis, C. V. Mosby Co., 1963. 479 p. Illus. \$9.75

According to the author this book was prepared to provide "a practical yet scientifically substantiated approach to the problems of the dentist who includes children in his practice." Ralph McDonald has been eminently successful in this task.

He correctly assumes that the reader is

likely to have had extensive exposure to such subjects as embryology, anatomy, physiology, biochemistry and nutrition. These subjects have therefore been purposely omitted from the text.

The book begins where the dentist is likely to begin with a new child patient, namely with the oral examination. There follows in succession a description of the behaviour of the child in the dental office, and two extensive chapters on eruption of the teeth and developmental disturbances. The chapters on caries control and the management of deep carious lesions and carious exposures will be particularly appreciated by the dentist who has a concern for the preventive aspects of dentistry for children.

The chapters on traumatic injuries and space maintenance problems include numerous illustrations of cases followed over many years. These case histories lend considerable weight to the author's treatment recommendations.

The remainder of the book is concerned with periodontal disturbances, operative dentistry and interceptive orthodontics. These chapters are well illustrated and the subject matter is well covered.

The chapter on caries prevention might have devoted greater emphasis to the consistency of cariogenic foods rather than to the refined carbohydrate content (in terms of teaspoons of sugar). The author might also have included a chapter on the importance of careful treatment planning to provide more effective execution of treatment. However, these criticisms are minor and do not detract from what is an excellent book and one I highly recommend both for undergraduate students and practicing dentists.

C. R. Castaldi

## in memoriam

GÉRARD APRIL — Le Dr G. April de Bonaventure, P. Qué., âgé de 45 ans, est décédé le 4 juillet 1963. Il était né à Trois-Pistoles, P. Qué., en 1917. Le Dr April obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1946. Il exerçait à Bonaventure.

CLARENCE BOUILLON — Le Dr Clarence Bouillon de Montréal, âgé de 60 ans, est décédé le 23 juin 1963. Il était né à Ontonagon, Michigan (E.-U.) en 1903. Il obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1929 et la maîtrise en hygiène publique (hygiène dentaire) à

l'Université Columbia de New York en 1952. Président du Comité d'hygiène dentaire publique du Collège des chirurgiens dentistes de la province de Québec, le Dr Bouillon était surintendant de la Division des services dentaires au Service de santé de la ville de Montréal. Il était fellow de l'American College of Dentists et de l'International College of Dentists. Lui survient sa femme, Marguerite Ostiguy, et ses deux filles, Micheline et Louise.

**DONALD ROBERT COPELAND**—Dr. D. R. Copeland of Grimsby, Ontario died on July 7, 1963. He was 40. Dr. Copeland was born in Kirkton, Ontario in 1923. He received his early education in Wingham and graduated from the University of Toronto in 1946. During World War II he was attached to the 133rd Dental Corps and had practised in Grimsby for the past 17 years. He was a past president of the Niagara Peninsula Dental Association. Besides his parents, Rev. and Mrs. Robert Copeland, Dr. Copeland is survived by his wife, Roberta Clare; three sons, Bruce, Bicky and Craig; and one daughter, Margaret Louise.

**NORMAN ROY DAVIS**—Dr. R. N. Davis of Hamilton, Ontario died on July 7, 1963. He was 67. Dr. Davis was born in Hamilton in 1896. He graduated from the Royal College of Dental Surgeons of Ontario in 1922. He is survived by two daughters, Barbara of Hamilton and Mrs. John Power of Midland as well as two grandchildren.

**HARRY ARNOLD DODICK**—Dr. H. A. Dodick of Fort William, Ontario died on July 1, 1963. He was 37. Dr. Dodick was born in Poland in 1925. After graduating from the University of Toronto in 1953 he practised in Fort William until the time of his death. Besides his wife, Marcia, Dr. Dodick is survived by one son, Mark; two daughters, Elyssa and Michelle; his parents, Mr. and Mrs. A. Dodick; and four brothers.

**MASSUE FORTIER** — Le Dr M. Fortier de Québec, âgé de 83 ans, est décédé le 13 juillet 1963. Il obtint son doctorat en chirurgie dentaire à l'Université Bishop en 1903.

**D'ARCY GRAHAM HILLIARD**—Dr. D. G. Hilliard of Kitchener, Ontario died on July 16, 1963. He was 57. Dr. Hilliard was

born in Kitchener in 1905. Following graduation from the University of Toronto in 1930 he practised in Kitchener where he served as secretary, treasurer and president of the North Waterloo Dental Society between 1931 and 1935. He held the rank of major in World War II. Surviving Dr. Hilliard are his father, Dr. J. A. Hilliard; a brother, T. A. Hilliard; and one sister, Mrs. Alice Bennels of Vancouver.

**GEORGE AUSTIN LISCUMB**—Dr. G. A. Liscumb of London, Ontario died on June 14, 1963. He was 80. Dr. Liscumb was born in Roseneath, Ontario in 1883 and graduated from the Royal College of Dental Surgeons of Ontario in 1912. Following graduation he practised in Drayton, Ontario until 1940 and later in Parkhill and Petrolia.

**GEORGE ALEXANDER MacKAY** — Dr. G. A. MacKay of Toronto, Ontario died on July 13, 1963. He graduated from the Royal College of Dental Surgeons of Ontario in 1901 and was made a life member in 1951. Dr. MacKay is survived by a nephew, Robert I. MacKay, Jr. of California.

**HOWARD VICTOR POGUE**—Dr. H. V. Pogue of Wainfleet, Ontario died on March 24, 1963. He was 82. Dr. Pogue was born in Opps, Ontario in 1880 and graduated from the Royal College of Dental Surgeons of Ontario in 1905. Before going to Wainfleet, he practised in Lindsay, Kitchener and Wellandport and was a pioneer in bringing dental care to the small farming areas of Lincoln County in his dental bus. Surviving Dr. Pogue are his wife, Edyth; two daughters, Mrs. H. Mawer of Marmora and Mrs. T. Hymmen of Wainfleet; and two sons, J. E. Pogue and L. A. Pogue of Wellandport.

**ROBERT GEORGE SCOTT**—Dr. R. G. Scott of Lindsay, Ontario died on June 18, 1963. He was 68. Dr. Scott was born in Bruce County, Ontario in 1894. Following graduation from the Royal College of Dental Surgeons of Ontario in 1924, he practised in Bobcaygeon and Lindsay. Later he practised in the Muskoka Hospital at Gravenhurst, returning to Lindsay in 1958 where he retired in 1960. Dr. Scott is survived by his wife, Margaret Levina; one daughter, Mrs. W. N. Gregory; one brother, James Edward; and a sister, Mrs. Jasper Noble.



## announcements

### CONVENTIONS OF THE CANADIAN DENTAL ASSOCIATION

|      |                     |                |
|------|---------------------|----------------|
| 1964 | Edmonton, Alberta   | June 28-July 1 |
| 1965 | Quebec City, P.Que. | May 30-June 2  |

### FUTURE EVENTS

| <i>Date</i>             | <i>Function</i>                                              | <i>Location</i>                                | <i>Officer</i>                  | <i>Address</i>                                         |
|-------------------------|--------------------------------------------------------------|------------------------------------------------|---------------------------------|--------------------------------------------------------|
| Oct. 6-9,<br>1963       | Great Lakes Society<br>of Orthodontics                       | Royal York Hotel,<br>Toronto                   | Dr. J. E.<br>Aldrich            | 13 N. Harding Rd.,<br>Columbus 9, Ohio                 |
| Oct. 14-17,<br>1963     | American Dental<br>Association                               | Atlantic City,<br>New Jersey                   | Dr. H.<br>Hillenbrand           | 222 East Su-<br>perior Street,<br>Chicago 11, Illinois |
| Oct. 15,<br>1963        | H. K. Box Memorial<br>Lecture                                | Faculty of Dentistry,<br>University of Toronto | Dr. C. H. M.<br>Williams        | 124 Edward<br>Street, Toron-<br>to 2, Ontario          |
| Oct. 17-20,<br>1963     | Austrian "Dentis-<br>ten" Congress                           | City Hall,<br>Vienna                           |                                 | 11 Kohlmarkt,<br>Vienna 1,<br>Austria                  |
| Oct. 20-24,<br>1963     | 35th Italian<br>Stomatological<br>Congress                   | Rome,<br>Italy                                 | Dr. P.<br>Lalli                 | Via Savoia<br>No. 78,<br>Rome, Italy                   |
| Oct. 26-27,<br>1963     | Montreal Dental<br>Club Pre-Con-<br>vention Seminar          | Queen Elizabeth<br>Hotel, Montreal             | Dr. W.<br>Kowall                | 1410 Guy<br>Street, Mont-<br>real, P.Que.              |
| Oct. 28-30,<br>1963     | Montreal Dental<br>Club Annual<br>Fall Clinic                | Queen Elizabeth<br>Hotel, Montreal             | Dr. W.<br>Kowall                | 1410 Guy<br>Street, Mont-<br>real, P.Que.              |
| Nov. 17-22,<br>1963     | VIIth Mexican<br>Dental Congress                             | Mexico City,<br>Quebec                         | Dr. R.<br>Sanchez-<br>Woodworth | Sinaloa No.<br>9, Mexico 7,<br>D.F., Mexico            |
| 25 nov.-1 dec.,<br>1963 | XXXVIIes Journées<br>Dentaires Inter-<br>nationales de Paris | Maison de la Chimie,<br>Paris                  | M. Henri<br>Huguet              | 33 ave Pierre<br>Ier de Serbie,<br>Paris 16e, France   |

### POSTGRADUATE AND REFRESHER COURSES

TORONTO — The Faculty of Dentistry, University of Toronto offers courses to graduates in dentistry leading to specialist certification in the fields of dental public health, dental oral surgery and anaesthesia, orthodontics, paedodontics, and periodontics. A separate course in anaesthesia as it applies to dentistry is also available.

The following short postgraduate courses will also be presented during the session 1962-63: OCCLUSION and OCCLUSAL CORRECTION, October 21-25, 1963; PAEDODONTICS, January 6-7, 1964; ENDODONTICS, February 19-21, 1964; ORTHODONTICS, March 2-6, 1964; ORAL SURGERY, April 20-24, 1964; and PERIODONTICS, May 4-8, 1964.

Enquiries and applications should be directed to the chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ontario.

ILLINOIS—November 8-9, 1963—Periodontics

MICHIGAN—November 25-27, 1963—Development of Occlusion

NEW YORK—November 15, 1963—Ultrasonics in Periodontal Therapy

OHIO—November 13-15, 1963—Crown and Bridgework

PENNSYLVANIA—November 11-15, 1963—Extra-Oral Tracers in Rehabilitation of Function

PENNSYLVANIA—November 14-15, 1963—Analgesia and the Control of Pain in Dental Practice

PENNSYLVANIA—November 18-22, 1963—Endodontics.

*Note* • Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.

*L'Association Dentaire Canadienne*

Volume 29

Numéro 9

septembre 1963

JOURNAL

*The Canadian Dental Association*

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## **Étiologie et traitement des douleurs de la langue**

*par Gérard Tabourian, D.D.S., Beyrouth, Liban*

La langue peut être le siège de modifications diverses au cours de nombreuses maladies générales ou locales.

Nous réservons le vocable de glossites, aux affections dont le siège est, soit uniquement, soit à prédominance linguale et plus précisément à celles qui font consulter le malade "pour la langue." Le problème diagnostique comporte des difficultés inégales. Les glossites sont en effet objectivement très polymorphes, leurs causes sont variées.

Ajoutons que leur pronostic est d'un éventail très large qui s'étale depuis la bénignité absolue à l'extrême gravité. Cette étude se limitera dans la recherche de l'étiologie et du traitement des douleurs

dans la langue chez les patients qui nous consultent parce qu'ils souffrent de la langue.

D'après Fox,<sup>1</sup> le nombre de ces patients a augmenté durant ces dernières années. Pourtant, comme il le remarque, rarement l'un des symptômes allant de la simple sensation de brûlure, au picotement, démangeaison, langue sableuse ou encore à une sensation de douleur bien établie, n'était significatif au point de vue diagnostic d'une maladie spécifique. Certes, il existe de nombreux cas facilement identifiables et qui répondent bien à un traitement approprié, mais c'est surtout les lésions douloureuses à étiologie mal définies et résistantes à tout traitement qui

sont les plus déconcertantes à soulager d'une façon permanente.

Cette étude ne s'intéressera qu'aux affections de la langue accompagnées de douleur. Mais une mise au point est nécessaire. La sensation de douleur étant une expérience subjective et individuelle, son interprétation variera énormément de patient à patient. Ainsi une personne pourra interpréter comme douleur ce qu'une autre considérera comme une sensation de froid, de chaud ou de pression.

La douleur est une expérience réelle, rarement imaginaire, comme on pourrait le supposer chez certains patients. C'est l'interprétation du stimulus par le système nerveux qui varie d'un individu à l'autre. L'interprétation du stimulus étant elle-même conditionnée par l'état mental du patient. Ainsi des stimuli primairement non douloureux chez la majorité des gens deviennent douloureux et vraiment pénibles chez les anxieux, neurotiques...

Il faudrait, cette digression terminée, considérer toujours une double origine dans la recherche de l'étiologie des douleurs à la langue, l'une organique, l'autre somato-psychique. La thérapeutique variera suivant l'étiologie.

Il va sans dire que l'histoire médicale passée et présente du patient, associée à un examen minutieux de la cavité buccale, constituent les deux piliers sur lesquels on fera le diagnostic et le plan de traitement.

#### LÉSIONS DOULOUREUSES D'ORIGINE TRAUMATIQUE (PHYSIQUE ET CHIMIQUE)

*Traumas mécaniques.*— Au cours de la mastication ou du brossage, la muqueuse de la langue peut être lésée; il en résulte de simples érosions ou de véritables ulcérations guérissant à la suite de la suppression de la cause et pour autant qu'il ne survienne pas d'infections secondaires.

Chez les épileptiques, il est classique de constater des morsures douloureuses à la langue occasionnées par une crise.

Les prothèses exerçant une pression continue peuvent provoquer en certains

endroits de la langue des ulcères décubitaux. Nadeau<sup>2</sup> a constaté maintes fois que les pièces prothétiques mal ajustées occasionnent par irritation des lésions douloureuses. Ces lésions en persistance de l'irritation s'hyperplasiaient. Une dégénération maligne (cancérisation) est possible.

En fait, tout irritation, qu'elle soit causée par une mauvaise obturation, un partiel mal ajusté, ou même une dent cariée avec parois tranchantes, constituent des facteurs étiologiques capables de produire une douleur ou une sensation d'agacement au niveau de la langue.

Held<sup>3</sup> signale aussi les mauvaises habitudes de la langue et des cas de bruxomanies avancées comme facteurs étiologiques possibles.

*Traumas thermiques et chimiques.*— Dans ce groupe, nous avons les brûlures de la langue qui sont le plus souvent dues à l'ingestion d'aliments chauds, tels que la pizza décrite par Burket.<sup>4</sup>

Le tiers antérieur de la langue est le plus souvent le site de ces brûlures douloureuses, mais passagères. Les lésions se présentent selon les cas sous formes d'érythèmes, de vésicules ou d'ulcérations recouvertes d'un magma fibrineux.

Citons, dans les traumas chimiques, les multiples substances pour la toilette buccale qui peuvent engendrer et entretenir des lésions, du fait qu'elles sont appliquées sous une concentration excessive ou à cause d'une sensibilité particulière de l'individu. Les différents topiques, analgésiques, antiseptiques (teinture d'iode non fraîche) appliqués par le patient ou des médicaments touchent accidentellement la langue au cours d'interventions diverses (phenol, enginol pure, acide chromique, nitrate d'argent). Des substances destinées à être avalées, mais maintenues en bouche, telles que l'aspirine ou certains sulfamidés.

*Traumas galvaniques.*— Ils sont dus à la présence de métaux différents (prothèse, obturation) et leurs manifestations sont variables: sensibilité au niveau des



papilles linguales, sensation de goût métallique.

Zegarelli et Rosenthal signalent un cas avec desquamation et ulcération de la surface dorsale de la langue.

La suppression des pièces métalliques ou de certaines d'entre elles entraîne la cessation des troubles.

*Lésions dues au tabac.* — Elle est de grande actualité. Le tabac, renfermant différentes substances irritantes (goudron, corps phénoliques, nicotine), est un facteur étiologique qu'il ne faudrait pas minimiser surtout chez les gros fumeurs qui consultent pour une sensation désagréable ou douloureuse. Cette sensation, selon Nathanson et Weisberger,<sup>5</sup> est éprouvée surtout le matin; cet auteur souligne aussi la nocivité de la température de la fumée et même du tuyau de pipe ou de porte-cigarette sur la langue.

*Traumas actiniques.* — McCarthy<sup>6</sup> ainsi que Held de Genève signalent comme facteurs étiologiques des douleurs dans la langue, les rayons ultra-violets et les rayons-X appliqués de manière prolongée.

*Leucoplasie.* — L'irritation locale est le facteur étiologique le plus important à retenir. Mais cette affection importante de la langue n'étant pas douloureuse, nous ne la retiendrons pas. Lorsqu'il y a présence d'ulcération et de douleur, il faut penser immédiatement à une lésion précancéreuse, ou déjà concréreuse. Une biopsie est de rigueur. Nous y reviendrons dans le paragraphe des cancers linguaux.

La thérapeutique des traumas en général est symptomatique et se résume en deux points: élimination de l'agent nocif, application d'un agent antiseptique combiné ou non avec une solution anesthésique pour soulager le patient. Burket<sup>4</sup> prescrit le métaphène (1:500) et un onguent anesthésique, la *Butyn* 4 pour cent (butacaine).

Orban et Wentz<sup>7</sup> conseillent la benzocaïne pour soulager la douleur, et l'hydrocortisone (2.5 pour cent) pour diminuer les symptômes aigus.

Nous avons employé avec succès tour à tour l'*Orabase* et le *Kenalog* dans l'*Orabase* (Squibb) suivant l'acuité de l'image clinique des lésions.

En règle générale, une bonne hygiène buccale, le rinçage avec un antiseptique doux sont recommandables pour éviter toute infection secondaire.

#### LÉSIONS DOULOUREUSES D'ORIGINE CONSTITUTIONNELLE

*Avitaminoses.* — Elles peuvent survenir dans des conditions différentes; c'est toutefois les divers types d'hypovitaminoses qui sont le plus souvent associés; elles sont dues à des insuffisances d'apport (déséquilibre ou insuffisance alimentaire), d'absorption ou d'utilisation, à des besoins augmentés (grossesse, infection) ou encore à une augmentation de destruction.

Certaines hypovitaminoses ou avitaminoses (privation totale) se manifestent par des signes spécifiques; d'autres non caractéristiques sont souvent difficiles à déceler.

Les indices principaux sont représentés selon les cas, par une tendance aux gingivites, des lésions épithéliales et des algies linguales.

Ce sont les déficiences en vitamine B complexe qui sont la cause la plus fréquente de divers glossodynies.

*Maladies sanguines.* — L'absence ou le manque d'utilisation du facteur antipernicieux de Castle au niveau de l'estomac et la déficience en fer constituent deux autres facteurs étiologiques avec répercussion sur la langue.

Dans le premier cas, on parle de glossite de Hunter caractéristique de l'anémie pernicieuse. La lésion débute en arrière de la pointe de la langue. Ce qui domine c'est la flaccidité de cet organe qui donne parfois l'impression d'être tuméfié. La langue est d'abord rouge, puis les papilles fongiformes et filiformes s'atrophient, ce qui donne à la langue un aspect lisse et brillant. Le patient éprouve dans la langue des sensations de brûlures exa-

cerbées par les aliments salés et épicés.

Dans le deuxième cas où l'on a une anémie hypochrome, on constate une langue lisse par suite de l'atrophie des papilles. La peau et la muqueuse sont pâles. On peut avoir des sensations de brûlure et d'agacement ou n'éprouver aucun symptôme.

Moulton a observé fréquemment cette glossodynie chez les filles arrivées à l'âge de la puberté et des premières menstruations accusant une anémie hypochrome (Chlorose de Hayem). Dans ce paragraphe, ajoutons deux syndromes à étiologie controversée, mais associés par de nombreux auteurs à des déséquilibres constitutionnels s'accompagnant de douleur à la langue.

Le syndrome de Plummer-Vinson qui est une dysphagie associée à une anémie se manifestant anatomiquement par une atrophie des muqueuses de la partie supérieure du tractus digestif. La langue est lisse (atrophie papillaire) et le patient ressent souvent à son niveau des sensations de brûlure.

Le syndrome de Moeller, dont l'existence même comme entité clinique est rejetée par Tobias, est considéré secondaire à un trouble sanguin (anémie pernicieuse, anémie hypochrome). La langue est rouge vif, la sensibilité est tellement grande que les malades renoncent à manger par crainte de la douleur.

Le diagnostic étiologique entre des différents types d'affections est souvent délicat et nuancé. Un examen de la formule sanguine est indispensable, ainsi que d'autres tests de laboratoire jugés nécessaires par le dentiste.

Une fois que l'on a éliminé toutes les causes locales (tartre, restaurations défectueuses, allergie, mauvaises habitudes), le traitement est général et consiste dans l'administration de vitamine B complexe, B<sub>12</sub>, acide folique, extrait de foie suivant l'étiologie. L'alimentation est équilibrée pour éviter les récidives.

Le pronostic est généralement bon, bien que Kutscher et Lane n'ont en que 85 pour cent de succès. Les 15 pour cent n'accusaient aucun soulagement: c'est le cas des

glossites idiopathiques qui résistent à tout traitement.

N'oublions pas de signaler la langue rouge vernissée chez le diabétique et la langue sèche rôtie chez les uréiques. Ces deux maladies organiques ont en effet une répercussion sur la langue. C'est souvent chez le dentiste qu'on dépiste ces deux affections passées jusque là inaperçues. Le malade se plaint d'une sensation de brûlure ou d'agacement, les tests de laboratoires confirment souvent notre diagnostic temporaire. Il faut alors référer au médecin traitant pour qu'il contrôle ou corrige le trouble systémique présent, qui certainement amènera la disparition des symptômes au niveau de la langue.

#### GLOSSODYNIE PSYCHOGENE ET TROUBLE NERVEUX

En règle générale, c'est la crainte du cancer qui amène les malades à consulter, dans un état d'inquiétude extraordinaire. Très souvent, l'examen local ou général le plus minutieux ne décèle rien, ce qui permet de rassurer immédiatement le malade. Le plus souvent, ce sont des patients phobiques, des psychopates et surtout des anxieux qui vivent continuellement dans la hantise du cancer. Ziskin et Moulton<sup>8</sup> donne une excellente description de ces femmes en ménopause qui souffrent de conflits émotionnels, d'insatisfaction sexuelle, de cancérophobie. "Ce sont, écrit-il, le plus souvent des 'femmes frigides,' dont la vie sexuelle est frustrée; elles examinent quotidiennement leur langue devant la glace et, en tirant fortement celle-ci, elles finissent par découvrir sur les bords en avant du point d'attache du pilier antérieur leurs papilles foliées. Si la malchance veut que celles-ci soient hypertrophiées ou enflammées et douloureuses, les malades sont convaincues qu'elles ont là un cancer." Les douleurs rapportées sont continues ou intermittentes, spontanées ou provoquées et d'intensité variable.

L'étiologie est surtout psychogène. Le traitement à base d'oestrogène est rarement suffisant à faire disparaître les dou-

leurs. Ziskin a essayé sans grand succès le benztrol, les vitamines et différents placebos. Il recommande un examen psychiatrique et un réajustement psychologique.

Au point de vue des troubles nerveux, les sympathalgies décrites par Dechaume<sup>9</sup> sont capables de provoquer des douleurs à la langue, mais elles sont très rares.

La névralgie du glosso-pharyngien plus fréquente se caractérise par une douleur paroxystique passagère. Le siège maximum de douleur correspond au territoire pharyngo-lingual. Elle reste toujours unilatérale. La douleur est atroce. L'étiologie est inconnue, l'hypothèse d'un virus neurotrophe n'ayant jamais été confirmée.

Le traitement consistera dans l'administration d'aspirine, d'aconitine pour soulager la douleur. En cas d'insuccès, s'efforcer soit par les agents physiques, soit par la novocainisation ou alcoolisation de la zone gachette (trigger zone), d'arrêter la reproduction des accès.

En raison des rapports anatomiques du IX, son alcoolisation est dangereuse. Si la névralgie persiste, neurotomie par voie cervicale ou endocrânienne.

#### LÉSIONS D'ORIGINE INFECTIEUSE

*Syphilis.*—La cavité buccale est un des sièges de prédilection des manifestations tertiaires de la syphilis. Les glossites se rencontrent surtout chez les hommes par les irritations puissantes de l'alcool et du tabac. Elles revêtent deux types différents suivant qu'elles évoluent vers le processus scléreux ou gommeux. Le premier est diffus et modéré, le gommeux est localisé et violent. Les signes fonctionnels sont presque nuls: certaine gêne mécanique et douleur surtout après ulcération. Les lésions syphilitiques sont dues au tréponème pallidum. Le traitement est du ressort du médecin.

*L'infection tuberculeuse* due au mycobactérie *tuberculosis* de Koch, l'*histoplasmosis*, l'*actinomycoïse*, la *blastomycose* et la *sprue* ont souvent des répercussions sur

la langue. Mais le plus souvent, la douleur apparaît après l'ulcération des lésions. Le dentiste doit savoir les diagnostiquer sans entrer dans les détails du traitement qui ne sont pas de son domaine et les référer au médecin.

*Abcès.*—Les abcès de la langue sont rares et ressemblent à une tumeur solide. La difficulté du pus à se collecter dans cet organe pauvre en tissu cellulaire explique l'intensité des douleurs. Si l'inflammation est limitée à une portion de la langue, on parle d'abcès chaud; si toute la langue est frappée, on parle alors de glossite phlegmoneuse. L'étiologie de la première forme est surtout locale: plaies, corps étrangers, brûlures, piques.

L'agent infectieux (streptocoque) pénètre dans le tissu cellulaire qui s'hypérémie et s'infiltre de sérosité et de pus, qui, en se collectant, forme l'abcès.

Le début est brusque, douleurs, tuméfaction dure, circonscrite. Le traitement consistera dans l'administration d'antibiotique et le plus souvent incision de l'abcès et drainage.

Quant à la glossite phlegmoneuse, elle est exceptionnelle car ses facteurs étiologiques, variole et le traitement intensif mercuriel, ont disparu.

*Stomatite de Vincent.*—Le siège des lésions est généralement au niveau de la papille gingivale, mais la langue peut être aussi affectée. On constate des ulcérations douloureuses. Les mouvements de la langue et l'alimentation sont entravés par des douleurs intenses; il y a le plus souvent une adénopathie sous-maxillaire.

Bien que l'étiologie ne soit pas encore établie, on l'attribue à l'association fusospirochète. Il existe des facteurs prédisposants comme la mauvaise hygiène, la fatigue, le surmenage et enfin l'éruption difficile d'une dent.

Le traitement consiste à enlever les facteurs locaux irritants, instaurer une bonne hygiène et une alimentation rationnelle. L'injection intramusculaire de 1,000,000 unités de pénicilline diminuera

les symptômes aigus. On pourra éventuellement prescrire des lozenges de benzoïne avant les repas, si l'alimentation est entravée par la douleur, et de la vitamine C comme thérapeutique adjuvante de renfort.

*Moniliase.*—La moniliase buccale n'est qu'une localisation particulière d'une infection due à un champignon, le *monilia albicans*. Au niveau de la langue, la lésion se présente sous forme de placards ou de formation ressemblant à des dépôts de "lait coagulé." Elle est souvent indolente, mais elle peut devenir douloureuse. La déficience en riboflavine et l'administration prolongée d'antibiotiques sont des causes prédisposantes.

Le traitement avec l'application topique de *Mycostatin* 100,000 unités (nystatin), trois par jour, donne de bons résultats.

Les stomatites catarrhale et membraneuse peuvent causer des douleurs à la langue. C'est le streptocoque hémolytique qui est le plus souvent associé avec ces deux types de stomatites infectieuses. Le traitement consiste dans l'administration d'un antibiotique approprié.

*Infection virale.*—La plus commune est l'*herpès simplex*. Au niveau de la muqueuse buccale, apparaissent des vésicules groupées en grappes se transformant rapidement en ulcérations arrondies, nettement délimitées et confluant le plus souvent; ces ulcérations sont très douloureuses.

Le contenu liquide de ces vésicules coagule et donne lieu à la formation de croûte. Cette éruption s'accompagne souvent de température et l'évolution dure 8-14 jours et disparaît d'elle-même.

L'étiologie est virale et on pense que l'éruption est favorisée par une baisse de la résistance générale. Scott, Steigman et Convey<sup>10</sup> après une enquête notent que cette infection touche pour 70 pour cent les enfants au-dessous de 6 ans. L'adulte acquiert une certaine immunité après la primo-infection.

Le traitement est symptomatique. On a préconisé diverses pommades, le *Kenalog*,

la *Terramycine* et l'*Auréomycine*, sans grands succès.

Récemment, deux auteurs anglais dans une publication dans le *British Medical Journal* pensent avoir trouvé dans l'*Idoxuridine* une médication valable.<sup>11</sup>

L'immunisation avec la gamma globulin, le vaccin de la variole n'ont pas donné satisfaction. La récurrence fréquente est incontrôlable jusqu'à date.

*Aphte.*—D'étiologie inconnue, les aphtes buccaux sont des lésions très douloureuses surtout à la période ulcéreuse. On pense de plus en plus à une étiologie virale; les travaux de Trulove du Walter Reed Medical Center confirment cette hypothèse.

Au niveau de la langue, la lésion ressemble cliniquement à l'*herpès simplex*; on la rencontre fréquemment au bout de la langue.

L'irritation, le traumatisme, et le stress favoriseraient l'apparition de la lésion et la récurrence.

Le traitement est souvent décevant. On a rapporté des succès avec les corticostéroïdes appliqués topiquement; la vitamine B complexe est populaire chez les femmes qui accusent des récurrences à la période des menstruations.

Les agents antihistaminiques, le *Kenalog in Orabase* (Squibb) ont été appliqués avec succès par Zegarelli et son équipe à l'Université Columbia.

#### DERMATOSES BUCCALES

La muqueuse buccale peut présenter des lésions associées à des symptômes dermatologiques de la face ou d'autres parties tégumentaires. Par ailleurs, il est possible qu'une dermatose se manifeste initialement au niveau de la muqueuse buccale. Nous ne citerons ici que les plus importantes parmi les dermatoses susceptibles de donner des lésions douloureuses à la langue.

*Lichen plan.*—Le lichen plan sur la langue apparaît sous la forme de plaques constituées par une série de petits nodules.



La lésion occupe surtout la face dorsale et ressemble à la lésion produite sur cet organe par une cautérisation légère avec le nitrate d'argent.

Il n'y a pas de symptomatologie subjective particulière, si ce n'est une certaine sensibilité aux aliments salés et épicés et des douleurs dans les formes érosives.

L'étiologie est inconnue. On l'observerait avec une fréquence particulière entre 30 et 50 ans chez les sujets surmenés, anxieux et nerveux.

Du point de vue thérapeutique, il importe d'insister sur la nécessité de supprimer toute cause d'irritation (mets épicés, tabac, dentifrices médicamenteux).

Finke et Zegarelli administrent de la vitamine A en dose thérapeutique; en cas d'insuccès, ils recommencent avec la vitamine B complexe. En outre, ils appliquent la Triamcinolone 0.1 pour cent dans une poudre adhésive (*Orahesive*). D'autres auteurs recommandent un traitement aux Rayons-X, la Solution de Fowler, l'hydrocortisone 2.5 pour cent.

Comme on le constate le traitement est palliatif, le pronostic douteux.

**Erythème multiforme.** — Les éruptions ulcéreuses sur la langue ne sont qu'un aspect de cette maladie à étiologie inconnue (allergie, intoxication, séquelle d'infection). Le patient se plaint de vives douleurs au niveau de la bouche: lèvres, langue, joues.

Lorsque le processus intéresse à la fois les yeux et la muqueuse buccale, il porte le nom de syndrome de Stevens-Johnson, et, dans le syndrome de Behçet, l'érythème multiforme s'étend en outre aux organes génitaux.

Là encore, le traitement est palliatif et tend à éviter l'infection secondaire.

Pour soulager la douleur, on administrera des lozenges de benzocaïne; l'application topique de pénicilline ou d'Auréomycine évitera l'infection secondaire.

Ayostas, Reeves, Shanks et Sydenstricker<sup>12</sup> préconisent la vitamine B complexe en association avec l'injection d'Auréomycine et de cortisone.

Wright et Jenkins favorisent l'immunisation avec la gamma globuline et rapportent quelques cas traités avec succès. Comme il est dans leurs habitudes, Zegarelli et Kutscher prescrivent toujours le *Kenalog* en application topique et obtiennent d'assez bons résultats.

Le *pemphigus vulgaris*, le *lupus érythémateux* et enfin la *sclérodermie* sont des dermatoses plutôt rares dont l'étiologie est tout à fait obscure. Les manifestations sont à la fois cutanées et buccales. La langue est souvent affectée; la douleur rend là aussi la mastication impossible et entrave l'élocution.

Le traitement est symptomatique et palliatif. Il faut référer le patient à un dermatologiste, car ce sont des lésions graves se terminant par la cachexie.

#### CANCERS LINGUAUX

Un cancer, à son début, se révèle par des manifestations purement locales; il commence presque toujours par une lésion d'apparence bénigne, voire insignifiante et—malheureusement indolore. A ce stade, le cancer est facilement curable par ablation ou destruction totale.

C'est à la période avancée d'ulcération que la douleur apparaît et alarme le patient.

L'évolution insidieuse du cancer buccal dont le début n'a rien de dramatique fait que le dentiste doit se préoccuper de la moindre sensation d'agacement ou de gêne qui se développe autour d'une zone linguale ou buccale qui, à la palpation, semble indurée.

Parmi les tumeurs bénignes seul le neurofibrome donne des douleurs paroxysmales, les autres tumeurs sont indolentes. La douleur n'apparaît que s'il y a ulcération secondaire par irritation ou traumatisme.

Quant aux tumeurs malignes à localisation linguale, c'est l'épithéliome pavimenteux lobulé ou spinocellulaire qui est le plus fréquent; l'épithéliome basocellulaire et le sarcome sont exceptionnels.

L'épithéliome spino-cellulaire siège habituellement sur les bords de la langue, à la partie moyenne, ou encore à sa pointe.

A la période d'état, ce sont les signes fonctionnels qui décident le patient à consulter: douleur névralgique provoquée et spontanée, gêne mécanique, salivation, halitose. Le malade se plaint d'une certaine maladresse de la langue, il se mord en mangeant, il bredouille.

A l'examen, on découvre un ulcère le plus souvent à la face dorsale qui suinte et saigne. La douleur augmente avec l'évolution; les signes physiques de cachexie sont alors évidents. L'adénopathie est bien marquée.

La grande responsabilité du dentiste est de pouvoir dépister la malignité à la période de début lorsque les chances de guérison sont bonnes. On ne peut pas parler d'étiologie du cancer, cette dernière étant toujours obscure. Mais on connaît quelques causes prédisposantes, comme la leucoplasie, le lichen érosif, et surtout les irritations chroniques de la langue.

Au point de vue traitement, il est nécessaire d'instaurer un traitement prophylactique du cancer, chez les leucoplasiques avec ulcérations douloureuses: suppression du tabac, des condiments. Faire immédiatement une biopsie. On procédera de même dans les cas de lichen plan érosif.

Lorsque le cancer est certain, le traitement est surtout chirurgical avec ou sans curetage ganglionnaire. La pose intralinguale de radium ou curiethérapie, l'irradiation, l'électrocoagulation ont des indications spéciales qui relèvent du domaine des spécialistes.

Une chose est certaine écrit Lester Cahn "un cancer diagnostiqué à son début est un cancer curable, un cancer déjà ulcéré meurt souvent dans l'année."<sup>13</sup>

Après avoir passé en revue l'étiologie et le traitement des douleurs dans la langue, nous constatons que cette dernière est impliquée dans de nombreuses maladies. Les lésions au niveau de la langue sont nombreuses et polymorphes. C'est un organe particulièrement sensible, non pas un miroir de la santé, mais un bon indicateur de l'état constitutionnel. Son

examen relativement facile nous donne une multitude de renseignements. L'étiologie des douleurs à son niveau est complexe, le traitement nuancé.

Malheureusement, comme le remarque Ziskin,<sup>14</sup> nous supposons plus que nous connaissons, notre traitement est plus empirique que scientifique.

## SUMMARY

*The author describes the various causes of pain in the tongue and discusses appropriate therapeutic measures. He distinguishes six categories of lesions: (1) traumatic lesions, (2) lesions of systemic origin, (3) lesions of psychosomatic origin, (4) infectious lesions, (5) oral dermatoses, and (6) oral cancer.*

*The treatment of lesions of traumatic origin (mechanical, chemical, thermal or radiation irritation) is directed toward suppression of the irritant coupled with supportive antiseptic therapy.*

*Vitamin deficiencies and blood dyscrasias are the commonest causes of lesions of systemic origin. The treatment is nutritional and medical.*

*Lesions of psychosomatic or nervous origin are treated by psychotherapy and sedation.*

*Antibiotics remain the agents of choice for the treatment of most lesions of infectious origin, although some viral infections respond poorly. Some success has recently been claimed with the use of antihistamine preparations.*

*Only palliative measures are available for the management of oral dermatoses (lichen planus, erythema multiforme, pemphigus vulgaris, lupus erythematosus, scleroderma) since the aetiology of these conditions remains obscure.*

*Early detection is the key to successful treatment of cancerous lesions of the tongue.*

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## L'éducation et la prévention dans un programme de santé dentaire

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Dans le contexte actuel d'un projet d'assurance-santé, on ne peut dissocier le bien-être de l'individu du problème de santé qu'il doit envisager.

Le problème de la carie dentaire ne peut être solutionné par le traitement seulement, si bien contrôlé soit-il. Cette affirmation découle des constatations suivantes:

1. A cause de l'équilibre dentiste-patients (1:4,500) tout à fait disproportionné, puisque l'enquête sur la dentisterie aux Etats-Unis a révélé que pour répondre aux besoins actuels, un équilibre de 1:1,000 était nécessaire;

2. Pour pouvoir atténuer le problème par le traitement seulement, il faudrait que la profession puisse concentrer tous ses efforts à corriger l'incidence de la carie chez tous les enfants, en commençant par le groupe de trois ans et plus, tout en maintenant le contrôle par des examens périodiques et des traitements subséquents, découlant de l'évolution chronique de la carie dentaire;

3. La profession est actuellement aux prises avec l'accumulation des défauts dentaires chez l'adulte, et on ne peut honnêtement exiger ou s'attendre à ce qu'elle délaisse celui-ci pour se consacrer presque entièrement à limiter son travail au traitement de l'enfant.

Pour pouvoir considérer l'efficacité du traitement comme un facteur de promotion dans la solution du problème de la carie dentaire, il faudrait quadrupler le nombre de dentistes actuellement disponibles, ce qui ne peut être raisonnablement concevable.

Puisque le problème de la santé dentaire est en déséquilibre total avec les possibilités de traitement par l'ensemble de la profession, l'orientation doit être faite d'abord vers l'application des mesures qui peuvent contribuer à en diminuer l'intensité.

### L'ÉDUCATION

1. La promotion de l'hygiène dentaire au niveau des écoles primaires et secondaires, afin de mettre en valeur l'import-

tance de la santé dentaire comme facteur de santé générale: nutrition, hygiène buccale à domicile, élimination des sucres, amidons, pâtisseries etc.

2. Formation d'hygiénistes dentaires, au niveau des services de santé publics et du praticien; ces hygiénistes pourraient être utilisés dans l'enseignement de l'hygiène, dans les programmes d'éducation et d'examen dentaires scolaires; et au niveau du praticien, elles pourraient, par leur compétence et leurs connaissances pratiques, effectuer certains travaux d'ordre secondaire, libérant ainsi le dentiste pour des travaux essentiels.

3. Augmentation, par la distribution de bourses ou d'octrois, du nombre de dentistes hygiénistes dans les services de santé publics gouvernementaux, indépendants ou volontaires, afin de promouvoir l'éducation dentaire et l'enseignement au niveau des écoles normales et de toute autre école d'enseignement supérieur.

PRÉVENTION

1. Fluoration des eaux de consommation.—Cette mesure seule équivaldrait à tripler le nombre actuel de dentistes disponibles, en réduisant des deux-tiers ou de 60 pour cent l'incidence de la carie dentaire pour les générations futures.

Mesure d'hygiène publique économique, efficace, recommandée par tous les organismes de santé publique, reconnue pour sa sûreté et sa facilité d'application, elle devrait être accessible, sinon imposée, à toutes les municipalités jouissant d'un approvisionnement d'eau communale. L'importance primordiale de la fluoration sur le plan national réside dans le fait que le pauvre aussi bien que le riche en bénéficie.

2. Application topique de fluorure à l'échelle nationale.—Il a été démontré, en 1948, alors que le Congrès américain avait voté \$1,000,000. pour des recherches sur la valeur de l'application topique de fluorure de sodium, en solution à 2 pour cent, que cette mesure prophylactique réduisait d'environ 40 pour cent l'incidence de la carie.

Il serait recommandable que, dans les endroits où la fluoration n'est pas applicable, tels que les régions où les municipalités ne jouissent pas d'un approvisionnement d'eau communal, des octrois soient disponibles pour la mise en œuvre de programmes d'application topique, pour les enfants de 3 à 14 ans, et, si les circonstances l'exigent, qu'on forme des auxiliaires compétents tels que: hygiénistes dentaires, techniciennes, infirmières hygiénistes, pour effectuer ce traitement qui est tout à fait de nature préventive.

ENSEIGNEMENT UNIVERSITAIRE

1. Au niveau des écoles d'hygiène, une plus grande attention devrait être donnée à l'importance de l'hygiène dentaire comme facteur de santé, et cette attention devrait être portée au curriculum général de la faculté de médecine.

2. Octroi de bourses additionnelles pour la formation d'un plus grand nombre de dentistes hygiénistes, pour leur utilisation dans des programmes gouvernementaux d'éducation et de prévention.

3. Enseignement plus élaboré et plus spécialisé de l'hygiène dentaire publique et de la dentisterie préventive au niveau universitaire et post-universitaire, en vue d'orienter davantage les efforts vers l'importance de l'éducation et de la prévention.

Personnel et budget minima additionnels nécessaires:

|                                                  |    |
|--------------------------------------------------|----|
| Dentistes hygiénistes                            |    |
| Au niveau de la province .....                   | 4  |
| Intégration des dentistes                        |    |
| Hygiénistes de la Ligue d'hygiène dentaire ..... | 8  |
| Montréal .....                                   | 3  |
| Québec .....                                     | 1  |
|                                                  | —  |
|                                                  | 16 |
| Hygiénistes dentaires                            |    |
| Au niveau de la province .....                   | 10 |
| Montréal .....                                   | 3  |
| Québec .....                                     | 1  |
|                                                  | —  |
|                                                  | 14 |



## Salaires

|                                              |           |
|----------------------------------------------|-----------|
| Dentistes hygiénistes (\$10,000)             | \$160,000 |
| Hygiénistes dentaires (\$4,000)              | 56,000    |
| Administration (allocation, papeterie, etc.) | 33,000    |

Dépenses annuelles d'opération \$249,000

A cette dépense, il faut ajouter l'octroi

de bourses, nécessaires à la formation d'un personnel compétent, l'aide aux municipalités dans l'application de programmes de fluoration: ceci peut être calculé à 0.10 per capita par année.

Ce montant est en surplus des budgets des services d'hygiène dentaire publique gouvernementaux déjà organisés, tant au niveau provincial que municipal.

## résumés

# TOUR D'HORIZON SUR LES SERVICES PUBLICS DE SANTÉ DENTAIRE EN NOUVELLE-ZÉLANDE ET OUTRE-MER

G. H. Leslie. *New Zealand D.J.* 59:13, 1963.

La profession dentaire, en Nouvelle-Zélande, réalisait, il y a 40 ans, la nécessité d'établir un système de traitements dentaires pour les écoliers. Ce système fut finalement absorbé par le plan de sécurité sociale, qui en agrandit les cadres pour y inclure les adolescents jusqu'à l'âge de seize ans. L'Association dentaire de la Nouvelle-Zélande en vint à une entente par laquelle les praticiens privés pouvaient traiter ces adolescents sur une base de tant par traitement. Cette entente peut s'étendre aux jeunes gens jusqu'à dix-neuf ans. On ne sait pas quelle est la proportion des jeunes gens qui ont profité de cet avantage de faire traiter leurs dents après l'âge de seize ans. On doit établir à ce sujet des statistiques à l'échelle nationale. On espère que cette enquête révélera qu'un nombre suffisant de jeunes gens attachent assez d'importance à leur

santé dentaire pour que ce système les englobe jusqu'à l'âge de vingt-et-un ans.

La sécurité sociale offre certains avantages à un nombre de personnes âgées et nécessiteuses, mais tous ceux qui sont dans le besoin n'y ont pas droit. Quelques hôpitaux prodiguent des traitements dentaires à un coût modique, mais cette politique n'est pas générale. Le Comité de santé dentaire du Ministère de la santé de la Nouvelle-Zélande fera bientôt un relevé des conditions qui existent dans les hôpitaux pour les soins dentaires. On espère, encore ici, que les hôpitaux pourront s'occuper—au moins partiellement—de la question du soin dentaire aux vieillards.

On commence à réaliser en Nouvelle-Zélande la nécessité d'organiser les traitements d'orthodontie qui ne sont pas compris dans le plan actuel.

Les parents n'ont pas à assumer les frais du traitement ordinaire des dents de leurs enfants; de ce fait, ils pourraient se rendre responsables des traitements spéciaux dont leurs enfants ont besoin. Le système des soins dentaires dans les écoles a été organisé lentement et avec soin et les frais d'orthodontie seraient certes assez onéreux pour l'Etat.

# EVALUATION CLINIQUE DE TROIS DENTIFRICES DÉSENSIBILISANTS CONTENANT DE LA FORMALINE

J. O. Forrest. *Brit. D.J.* 114: 103, 1963.

On a entrepris une évaluation de trois dentifrices contenant de la formaldéhyde d'une teneur à peu près semblable préconisés pour l'élimination de la sensibilité des dents. Un de ceux-ci était un dentifrice américain (*Thermodent*) goûtant un peu le sel et la formaldéhyde. Les deux autres — un dentifrice anglais (*Emo-forme*) et un provenant de Suisse (*Emo-forme*) avait un goût moins prononcé de formaldéhyde. Les trois pâtes contenaient, comme agent actif, de la formaldéhyde dans de la chaux précipitée dans une proportion de 1.29 à 1.4 pour cent, des sels et certains parfums.

Les patients traités furent classifiés en trois catégories: le groupe 1 comprenait ceux dont les symptômes étaient suffisamment graves pour justifier le principal motif de plainte; le groupe 2 renfermait ceux qui ne se plaignaient d'aucun malaise; le groupe 3 consistait en patients qui souffraient de sensibilité (parfois aussi prononcée que chez ceux du groupe 1), mais qui n'était apparue qu'après une intervention chirurgicale, un traumatisme ou une lésion causée par des instruments et qui était jugée passagère.

Les trois dentifrices à plusieurs reprises ont réussi, sans autre médication locale, à soulager des régions généralisées de sensibilité moyenne et des régions de dentine exposée à la surface occlusale des dents. Ils furent moins efficaces pour

soulager une sensibilité grave au collet des dents. Dans ces cas, les dentifrices à base de formaldéhyde réussirent à maintenir les régions indemnes d'autres symptômes après un traitement à l'aide des méthodes conventionnelles.

## BROSSES À DENTS MÉCANIQUES

Myron Poplove, *Dental Health Newsletter*, Ministère de la santé nationale et du bien-être social, p. 7, Hiver 1962-63.

Certains rapports soulignent que les brosses à dents mécaniques valent mieux que les brosses à dents ordinaires pour enlever les plaques et les débris d'aliments sur les dents, pour abaisser la formation du tartre et pour donner suite aux traitements de périodontie. La brosse à dents mécanique est plus efficace et plus facile d'emploi pour les patients souffrant de gingivite. Elle est plus douce pour les tissus et cause moins d'irritation aux gencives.

Les mères d'enfants handicapés peuvent plus facilement leur nettoyer les dents avec une brosse mécanique. On est donc porté à croire que la brosse à dents mécanique pourrait être utilisée avec avantage. Chez les patients hospitalisés, les convalescents ou les invalides, soit qu'ils se brossent eux-mêmes les dents, soit que ce soin soit confié à des infirmières, la brosse mécanique épargnerait du temps aux hygiénistes dentaires, aux infirmiers ou aux aide-malades et donnerait de meilleurs résultats au point de vue hygiène.

*Au service de la profession dentaire* • Plus de deux cents dentistes prennent part volontairement au travail des vingt et plus conseils et comités de l'Association dentaire canadienne. D'autres collaborent à ses quatre sections: chirurgie buccale, dentisterie pour les enfants, orthodontie, périodontie.

## Des cours post-scolaires obligatoires ?

Un dentiste, comme tout autre professionnel, doit sans cesse parfaire et améliorer ses connaissances scientifiques. La science dentaire fait des progrès tellement rapides qu'un dentiste, pour remplir moralement ses obligations envers ses patients, est obligé de se tenir constamment à la page et au courant des améliorations qui se produisent dans toutes les disciplines qui constituent son domaine.

Il suffit de regarder en arrière, disons il y a vingt ans, pour se rendre compte des changements considérables qui se sont produits dans l'exercice dentaire. Les recherches entreprises dans les sciences biologiques, pharmacologiques et sociologiques, pour ne citer que celles-là, ont changé les concepts de la thérapeutique moderne. Songeons, un instant, aux nouvelles avenues qui furent ouvertes aux dentistes par la découverte des antibiotiques! Cette évolution a touché à tout: aux matériaux dentaires, aux techniques de restauration, à l'instrumentation, même à la philosophie du rôle du dentiste dans l'équipe qui s'occupe de la santé de notre population.

Un certain nombre de dentistes s'est adapté aux variations survenues au cours des années dans l'application clinique des sciences dentaires par des congrès, des clubs d'étude, des séances scientifiques des sociétés locales, des lectures et des cours post-scolaires.

Mais le problème se situe dans la façon de motiver *tout* dentiste à entreprendre et à maintenir un programme de perfectionnement de son art.

Les chiropraticiens de Pennsylvanie, le 8 août 1961, ont fait amender leur loi à la Législature de l'Etat, de façon à ce que chacun des membres de leur Société est maintenant légalement obligé de suivre des cours post-scolaires à intervalles réguliers.

Quelques groupements de dentistes se sont demandés s'il ne serait pas sage de forcer par la loi tout praticien à s'inscrire à des cours de perfectionnement. Ces associations dentaires ont crû que ni le public, ni la profession tireraient du profit d'une telle mesure, pour les raisons suivantes:

1. Un plan du genre serait difficile à administrer. Sur quels critères le Collège pourrait-il s'appuyer pour choisir les cours et les cliniques qui s'imposent? Combien d'heures faudrait-il y consacrer? Comment contrôler les présences? Etc. Autant de questions difficiles à résoudre, surtout quand il s'agit d'un groupe de près de 2,000 dentistes.
2. Le Collège devrait disposer d'un pouvoir discriminatoire immense pour sélectionner les dentistes qui ont besoin de tel ou de tel cours. Cette autorité qui priverait un dentiste du droit de gagner sa vie est lourde de conséquences et prêterait à des abus.
3. Il n'y a pas assez de professeurs et de cliniciens dans notre province pour répondre à la demande que créerait une loi semblable.
4. La majorité des conférences, des congrès et des clubs d'études sont organisés sous l'égide de sociétés dentaires pour

leurs membres en règle. Une telle loi imposerait des difficultés aux dentistes qui ne font pas partie de ces sociétés. Il est vrai que ces confrères pourraient s'inscrire à des cours donnés aux universités, mais, là encore, les facultés ne pourraient pas satisfaire à toutes les demandes.

5. Le public verrait d'un mauvais oeil l'incompétence de la profession à inciter ses membres à parfaire *librement* leurs connaissances. Il conclurait, à la lumière d'une telle législation, que plusieurs dentistes ne se tiennent pas à la page et il perdrait la confiance qu'il a en la profession dentaire.

Il faut donc trouver d'autres moyens pour encourager les dentistes à se tenir au courant des progrès réalisés dans leur domaine. Des dentistes, par exemple, se sont groupés en sociétés d'études et se sont engagés à consacrer, tous les trois ans, cinquante heures dans une faculté dentaire et à assister à la moitié des séances scientifiques d'une telle société. Cette

initiative est intéressante, mais, encore une fois, où trouver la motivation nécessaire pour que les dentistes s'inscrivent à des groupements semblables et se plient à leurs exigences?

On remarque que les plus jeunes diplômés sont plus intéressés à continuer leur formation. Le nombre de ceux qui poursuivent des études supplémentaires, après leur cours d'études régulier, soit pour l'obtention d'une maîtrise, soit comme résident ou interne dans un hôpital, augmente sans cesse, d'année en année. Cette constatation est encourageante.

Le problème demeure dans la façon d'inviter les dentistes à demeurer des assoiffés de science toute leur vie. La réponse n'est pas facile à trouver, mais elle ne consiste certes pas à les forcer, par la loi, à suivre des cours additionnels.

G. de M.

## les actualités dentaires

### L'Association

#### LES DENTISTES EMPLOYÉS PAR LE GOUVERNEMENT FÉDÉRAL SERONT REPRÉSENTÉS AU CONSEIL DES GOUVERNEURS

L'Association dentaire canadienne a amendé ses règlements pour permettre aux dentistes qui travaillent pour le gouvernement fédéral à être représentés au Conseil des Gouverneurs par un délégué avec droit de voter. Cet amendement a été approuvé par plus des deux tiers des membres, ce qui est plus

que suffisant pour une résolution du genre.

Les dentistes fédéraux (Corps dentaire royal canadien, Ministère de la santé nationale et du bien-être social et Ministère des affaires des anciens combattants) tentaient depuis plusieurs années à se faire représenter au Conseil des Gouverneurs. Il se peut qu'ils soient déjà représentés au Conseil des Gouverneurs par le délégué d'un membre corporatif (Collège provincial); néanmoins, ces dentistes peuvent travailler partout au Canada et même à l'étranger. Ils croient que leurs intérêts particuliers peuvent être mieux exposés au Conseil par leur propre représentant que par le délégué d'une province. Les services fédéraux choisiront un délégué qui siégera pour un terme de trois ans au Conseil des Gouverneurs.



## L'A.D.C. RECOMMANDE DES ÉCHELLES PROVINCIALES D'HONORAIRES

Le Conseil des Gouverneurs de l'A.D.C. a prié les provinces d'établir des échelles d'honoraires bien précises qui ne soient pas seulement des "suggestions" ou des "guides" à l'usage des dentistes. Le Conseil des Gouverneurs a approuvé la résolution suivante que lui a proposée le Conseil Exécutif:

"Considérant que des échelles d'honoraires sont essentielles à l'établissement de bases pour fixer les honoraires de services prodigués selon des plans de services dentaires;  
"Considérant que le Conseil Exécutif a adopté la politique que les échelles provinciales d'honoraires devraient servir à cette réalisation;  
"Il est proposé que les membres corporatifs soient priés d'établir le plus tôt possible des échelles d'honoraires bien précises."

Le rapport soulignait qu'une des principales raisons motivant une échelle d'honoraires précise dans chaque province était la tendance à l'établissement de plans de services dentaires.

Le Conseil a de plus approuvé une recommandation encourageant la formation de corporation de services dentaires pour administrer éventuellement les plans dentaires dans chaque province.

Il a aussi sanctionné une recommandation de l'Exécutif au sujet de l'utilisation de l'échelle d'honoraires de chaque province pour négocier les honoraires du Ministère des affaires des anciens combattants. Ce Ministère se sert présentement d'une seule échelle d'honoraires nationale.

## NOMINATION DE DEUX MEMBRES HONORAIRES

L'Association dentaire canadienne a honoré un dentiste et un éducateur à sa réunion générale annuelle tenue à Toronto, le 20 mai dernier. Elle a présenté des certificats de membre honoraire au docteur Harvey W. Reid, de Toronto, qui se dévoue depuis longtemps pour l'A.D.C. et au docteur A. Clifford Lewis, ancien doyen du Collège d'éducation d'Ontario. Le docteur Reid a été le président de l'A.D.C. en 1945-46 et il a agi durant de nombreuses années comme président du Comité d'étude sur l'assurance-santé; il a été nommé par le Conseil des Gouverneurs, après avoir été membre du Conseil d'enseignement dentaire pendant plusieurs termes, aviseur de ce comité. Il a de plus, depuis 1950, en compagnie du docteur Lewis, fait partie de la Commission d'enquête du Conseil d'enseignement.

Le docteur Reid a exercé à Toronto, depuis 1920, et a détenu des postes dans des organisations dentaires au niveau local, provincial et fédéral. En 1949, il fut nommé membre en chirurgie dentaire du Collège royal des chirurgiens d'Angleterre. L'an dernier, il a été fait membre honoraire de l'Association dentaire américaine en reconnaissance de ses nombreux services à la profession dentaire.

Le docteur A. C. Lewis, depuis 1950, agit comme président de la Commission d'enquête du Conseil d'enseignement dentaire. Il est l'aviseur pédagogique de ce Conseil et il est le responsable des conférences de pédagogie organisées à l'intention des professeurs des facultés dentaires canadiennes et qui leur ont été des plus profitables. Après plusieurs années comme directeur pédagogique des écoles de l'Université de Toronto, le docteur Lewis devint, en 1944, doyen du Collège d'éducation d'Ontario, d'où il prit sa retraite en 1958. Il a été le président de plusieurs organismes de professeurs et de la section de Toronto de l'English-Speaking Union. C'est le président l'A.D.C., le docteur M. V. J. Keenan, qui a offert ces 22<sup>e</sup> et 23<sup>e</sup> certificats de membre honoraire.

## Le Canada

### LA SASKATCHEWAN SONGE À ÉTABLIR UNE ÉCOLE DENTAIRE

La législature de Saskatchewan a adopté la résolution suivante, il y a quelques semaines:

"Cette assemblée souhaite respectueusement que l'Université de Saskatchewan et que le gouvernement de Saskatchewan étudient la possibilité de mettre à la disposition des citoyens de cette province plus de services dentaires, en modifiant, si nécessaire, le système des bourses pour les étudiants en chirurgie dentaire, ou en prenant des arrangements avec d'autres universités pour la formation d'étudiants en chirurgie dentaire, ou en établissant une école dentaire dans la Saskatchewan qui décernerait des diplômes en chirurgie dentaire (D.D.S.)."

La motion originale de Franklin Foley demandait seulement que le gouvernement et que l'Université de Saskatchewan songent immédiatement à établir une faculté dentaire à l'Université. Le Ministère de la Santé publique a proposé l'amendement ci-dessus qui a été voté par la Chambre.



Remise de certificats aux premiers membres honoraires de l'Académie canadienne des sciences dentaires. De g. à d., les docteurs Paul Geoffrion, I. F. Miller, Ernest Charron, Yves Dufresne.

## Le Corps dentaire royal canadien

### BIENVENUE À UN NOUVEL OFFICIER

Le capitaine I. M. Hamilton, ancien membre de la 50e Unité dentaire qui a obtenu son diplôme de l'Université Dalhousie en 1955, a été appelé pour servir dans l'Armée d'une façon continue; il est affecté au Shearwater.

### VISITES ET VOYAGES OFFICIELS

Au cours du mois d'avril, le brigadier Baird a procédé à l'inspection annuelle des unités du Corps dentaire qui se trouvent en France et en Allemagne. Cette tournée lui a permis de visiter la 35e Unité dentaire de campagne, commandée par le lt-col. L. G. Craigie, et la 4e Compagnie dentaire de campagne, commandée par le lt-col. G. C. Evans.

Le lt-col. G. R. Covey, sous-directeur des Services dentaires, a été nommé inspecteur pour le concours de compétence générale organisé par la Milice pour cette année. Au cours de sa tournée, il a visité les unités énumérées ci-dessous, qui prennent part au concours:

51e Unité dentaire, Saint-Jean, commandée par le lt-col. H. F. Bonnell;

53e Unité dentaire, Montréal, commandée par le major intérimaire S. J. Gouroff;

54e Unité dentaire, Ottawa, commandée par le lt-col. H. J. Chartrand;

56e Unité dentaire, Toronto, commandée par le lt-col. intérimaire M. C. Parks;

57e Unité dentaire, Winnipeg, commandée par le lt-col. M. J. Snidal;

60e Unité dentaire, Edmonton, commandée par le lt-col. S. G. Geldart;

61e Unité dentaire, Vancouver, commandée par le lt-col. P. L. Rondeau.

## Les sociétés dentaires

### 1ÈRE RÉUNION DE L'ACADÉMIE CANADIENNE DES SCIENCES DENTAIRES

L'Académie canadienne des sciences dentaires a tenu sa première réunion au Centre social de l'Université de Montréal, dimanche, le 19 mai 1963.

Les membres de l'Académie ont consacré leur journée à des cliniques qui leur furent présentées par le docteur I. Franklin Miller, de New York, sur la réhabilitation dentaire. Cette journée d'études s'est terminée par un dîner, où étaient présentes les épouses et où furent décernés les certificats de membres honoraires aux docteurs Ernest Charon et Paul Geoffrion, anciens doyens de la faculté de chirurgie dentaire de l'Université de Montréal, et au docteur I. Franklin Miller, conférencier de la journée. L'Académie canadienne des sciences dentaires est de fondation récente et elle groupe des dentistes désireux de se perfectionner. Son fondateur et président est le docteur Yves Dufresne, de Trois-Rivières.

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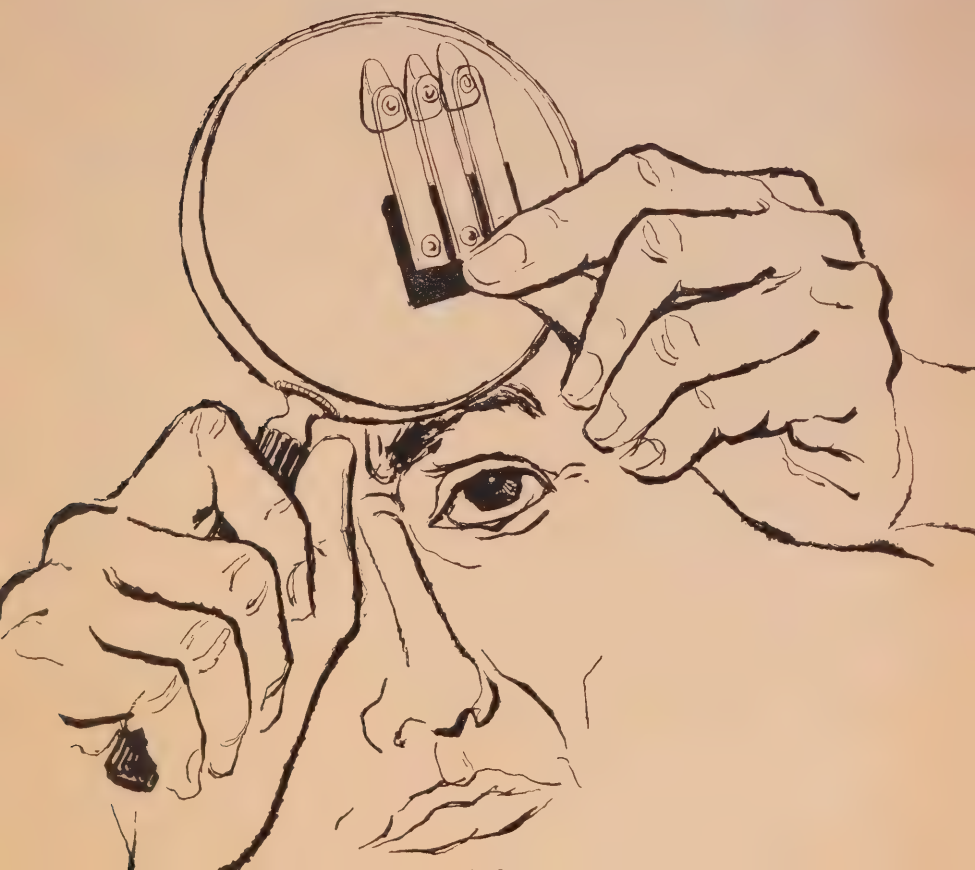
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Figs. 1A, 1B and 1C: Erythroblastic anemia

## BLOOD DISEASES: EFFECTS ON JAWS

### Often seen in periapical and extraoral radiographs

Certain anemias, particularly those of hereditary or congenital origin such as sickle-cell anemia, erythroblastic anemia and congenital hemolytic disease, often show up clearly in radiographs of the maxilla and mandible.



Fig. 2:  
Sickle-cell  
anemia

Here is why: Since each of these anemias is characterized by a hyperplasia of bone-marrow activity to compensate for a deficiency of red cells in the circulating blood stream, radiographs reflect this increased activity. Radiographic findings, interestingly enough, are similar regardless of the specific form of the anemia.

Periapical radiographs reveal more impressive and characteristic findings—the marrow spaces are enlarged, the trabeculae are fewer but more prominent, suggesting a "honey-comb" (Figures 1A, 1B, 1C, 2, 3A and 3B). Lamina dura and teeth, however, are not affected by the hyperplastic marrow activity.

Extraoral radiographs exhibit a generalized radiolucency with the cortices thinned and less dense (Figure 4, an osteoporosis).

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**Figs. 3A  
and 3B:**  
Sickle-cell  
anemia



Occasionally, in *sickle-cell anemia*, areas of bone condensation or sclerosis will be noted (Figures 3A and 3B). Occlusion of capillaries, followed by necrosis, fibrosis and calcification, is responsible for the radiopacities.

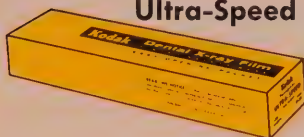


**Fig. 4:** *Sickle-cell anemia*

Radiographs and caption material from Division of Stomatology, School of Dental and Oral Surgery, Columbia University, N.Y.C.

Reprints of this and subsequent advertisements available upon request. Please indicate quantity desired and use intended.

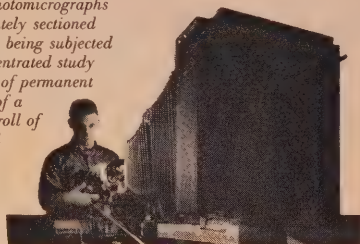
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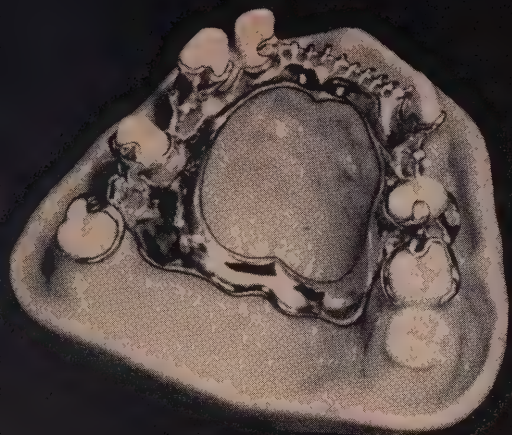
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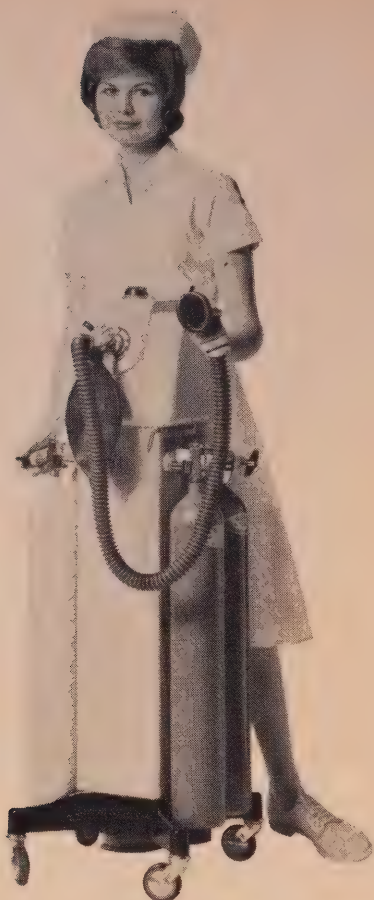
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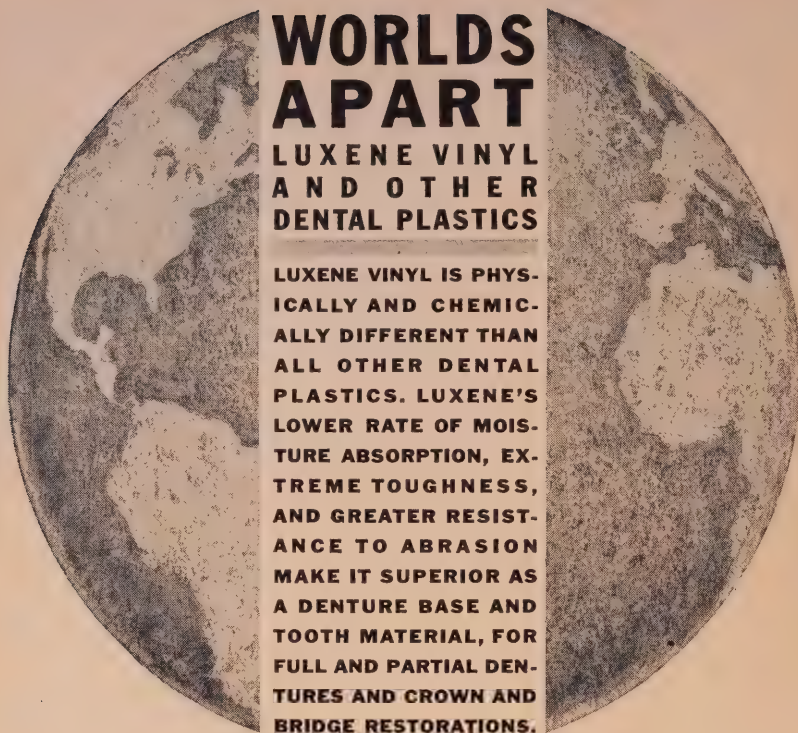






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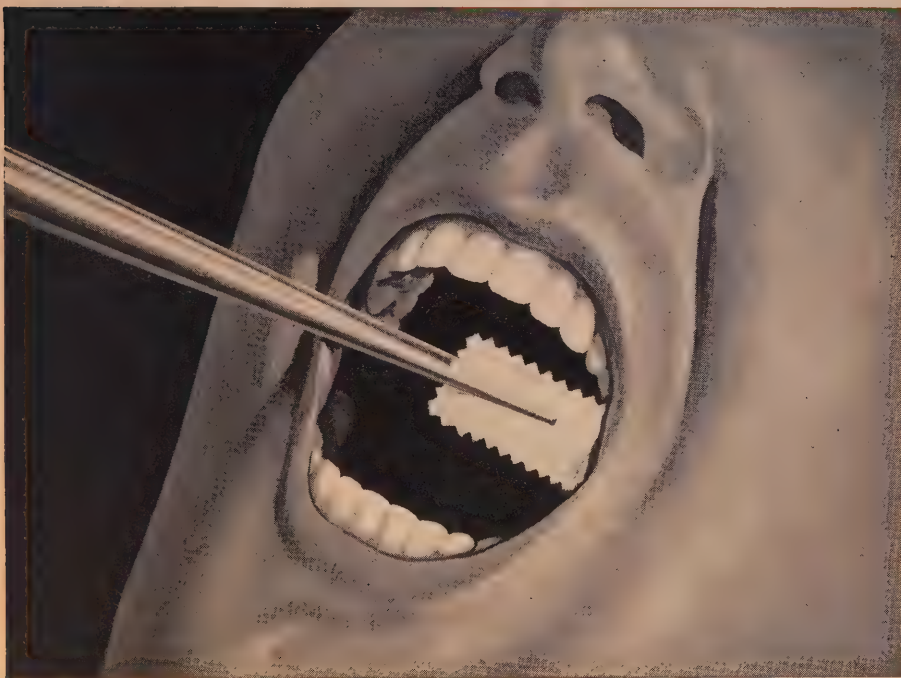
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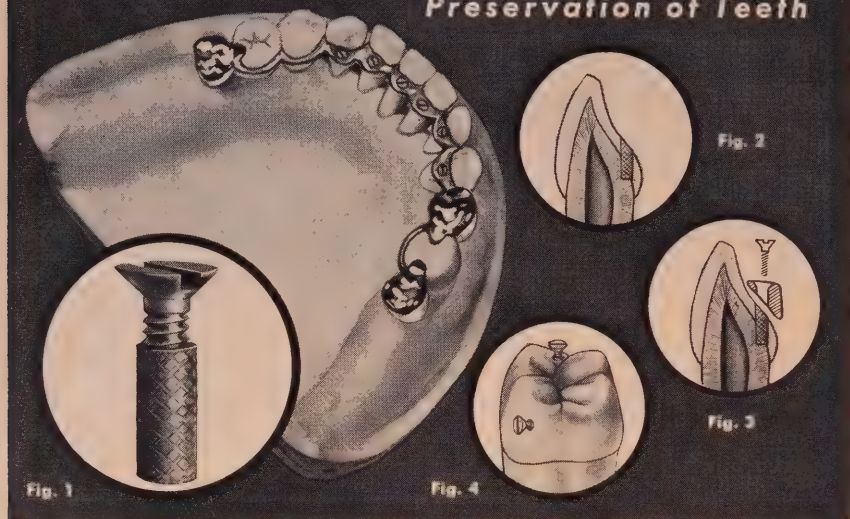
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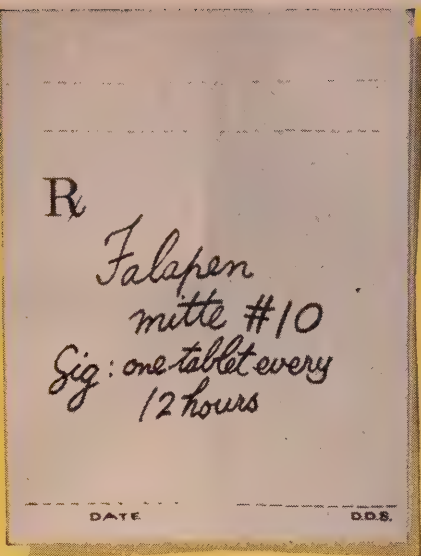
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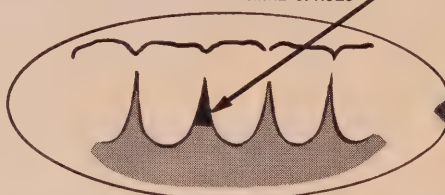


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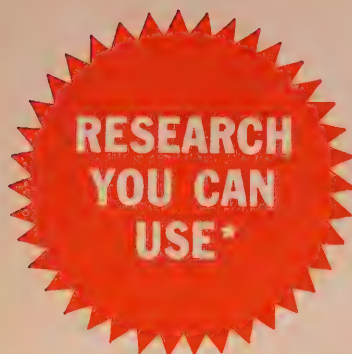
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|--------------|-------------------|-----------------------|---------------------|
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(Continued on page 54)

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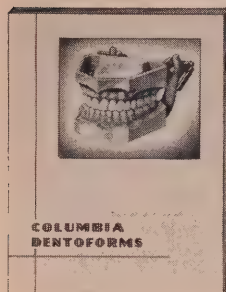


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(Continued on page 56)



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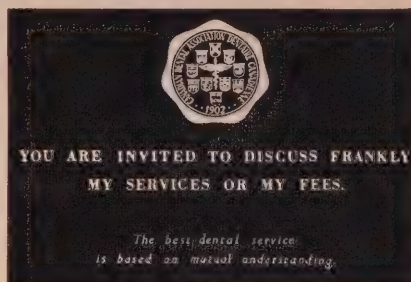
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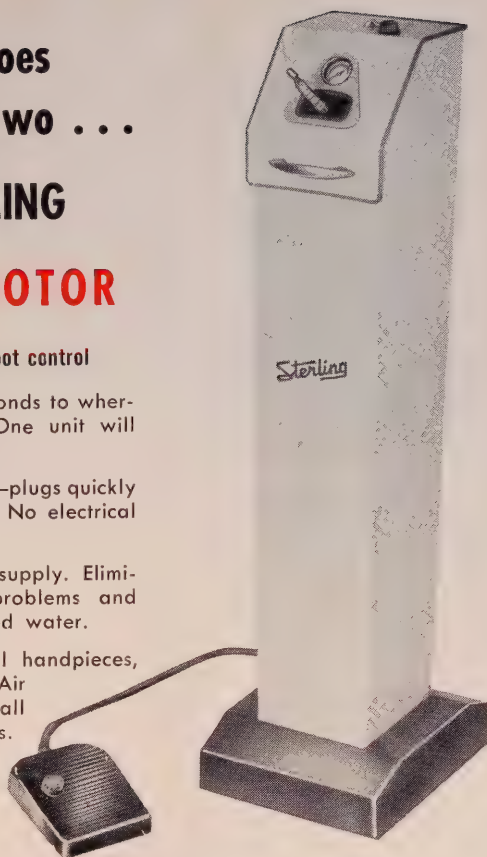
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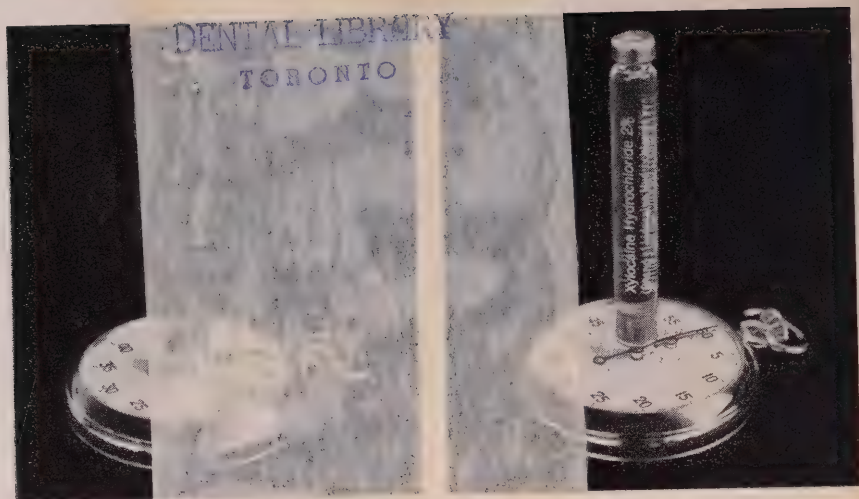
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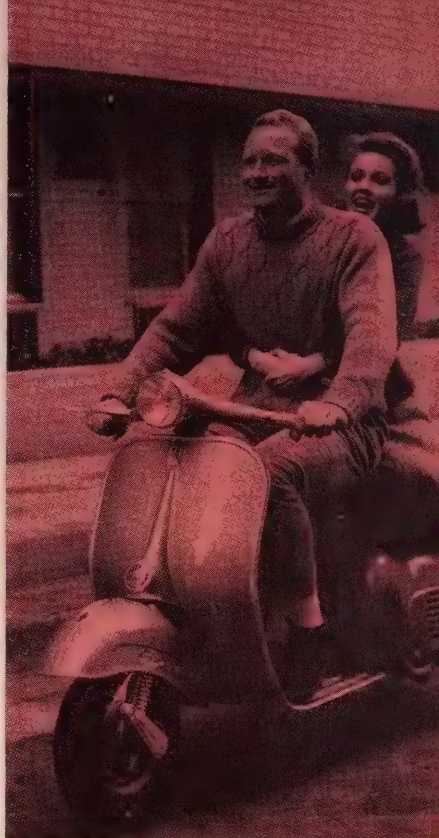
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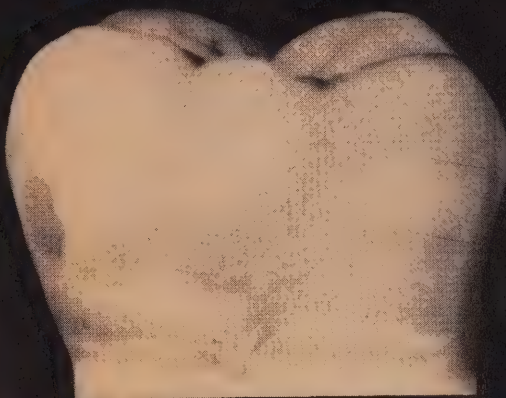
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(1) Pigman, W.; Elliott, H. W., Jr., and Laffre, R. O.: J. Dent. Res. 37:627, 1952. (2) Francis, M. D., and Meckel, A. H.: J. Dent. Res. 39:697, 1960.





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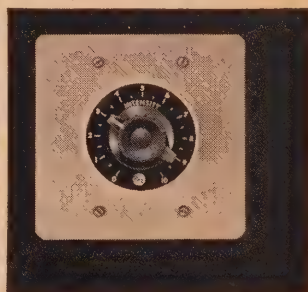
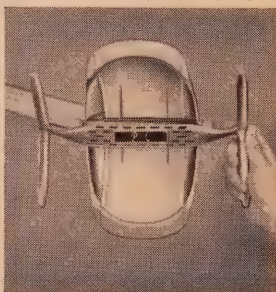
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 Published monthly for the Canadian Dental Association by Gordon V. Allen Publications, 95 King Street East, Suite 205, Toronto, Ontario. Telephone 368-6251.  
 Gordon V. Allen, Advertising Manager.

Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

Authorized as Second Class Mail, Post Office Department, Ottawa, and for payment of postage in cash. All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month.

All expressions of opinion and statement of supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association.

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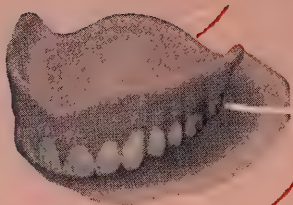
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*The Canadian Dental Association*

Volume 29

Number 10

Toronto

October 1963

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## **Physiological and socio-psychological significance of malocclusion**

*R. O. Fisk,\* D.D.S., M.S., Toronto, Ontario*

The discipline of orthodontics faces a serious problem today. It is imperative that we establish workable diagnostic standards to define "malocclusion" not only to the satisfaction of our professional colleagues but in a meaningful way for the public as well.

There have been great strides in orthodontic techniques and the public has accepted these techniques. There has also been progress in the collection of data

from which malocclusion can be measured and classified. At the same time, advances in other fields of dentistry — for example improved control of dental caries and fluoridation of urban water supplies — have projected public interest beyond emergency care and the treatment of caries to a point where patients can appreciate orthodontic needs. Moreover, prepaid health insurance plans are increasingly making some limited provision for orthodontic treatment.

All these developments combine to create an urgent need for workable diagnosis

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\*Assistant professor, Department of Orthodontics, Faculty of Dentistry, University of Toronto.



tive standards which may be used in the assessment of malocclusion. Such standards, which are meaningful both to dentists and the public, do not presently exist. Criteria which demonstrate the significance of good occlusion to the patient are inadequate. Yet the significance of good occlusion to the patient's somatic and psychic well-being is the *raison d'être* for orthodontic treatment.

#### DEVELOPING A DEFINITION

The matter of defining malocclusions has been under consideration for at least a dozen years. When New York State health authorities made orthodontic treatment available to school children in 1945, they found that the existing professional concepts did not provide a satisfactory basis for selection. Studying this situation in New York State eight years later Bushel and Ast<sup>1</sup> concluded that they could not define handicapping malocclusions too precisely because of the infinite number of variations of malocclusions which are possible. It was impossible to make any definition which would include simple, objective criteria embracing *psychological*, as well as the *physical* handicapping factors. The words "*psychological*" and "*physical*" are italicized because they are key words in the discussion which follows.

Subsequently Draker<sup>2</sup> presented an index of handicapping labiolingual deviations for public health purposes to augment or replace clinical judgement. Recently, Moyers,<sup>3</sup> while admitting that an infallible occlusion index must await more complete knowledge, suggested three interim proposals: (1) longitudinal and quantitative studies of the craniofacial skeleton; (2) complete basic studies in the skeletal framework related to musculature, with emphasis on the range that is normal; and (3) analysis of the time required for interceptive procedures by general practitioners and by orthodontists.

In short, some progress has been made in physical measurements of malocclusion. But good occlusion is a semi-abstract

quality that cannot be measured in these terms alone. When malocclusion results in actual pain or severe malfunction, its correction is a first necessity. But even in the absence of actual disability, an ideal occlusion must be the objective of orthodontic treatment and we must have adequate standards to guide us. Where third-party agencies (such as public health programs and health insurance plans) are involved, it is essential that orthodontic standards provide that: (1) proper cases be referred for treatment, and (2) statistical material be amassed which will allow further development and refinement of diagnostic and screening procedures.

#### DEVELOPING STANDARDS

In reviewing past efforts toward establishment of occlusion standards, emphasis is directed to those aspects which indicate the significance of good occlusion to the public — those factors which may indicate how the patient will benefit from orthodontic treatment, rather than the degree or type of treatment he may require. Basically, three sets of standards have been developed:

**Orthodontic Standards.**—These are derived from model analysis of ideal occlusal relations and radiographic interpretations of normal denture relations to the craniofacial structures.

**Epidemiological Standards.**—The incidence of occlusal deviations from ideal occlusal relationships that are observed in population groups.

**Public Health Standards.**—Usually an "index" or summation of selected occlusal abnormalities observed in individuals.

Orthodontic standards are essentially derived from the work of Angle and his method of classifying dento-alveolar structures, as well as from his concepts of ideal occlusion. While the "ideal" occlusion (still subject to clinical definition) may be the ultimate objective of treatment, there are often natural limitations which make it impossible of

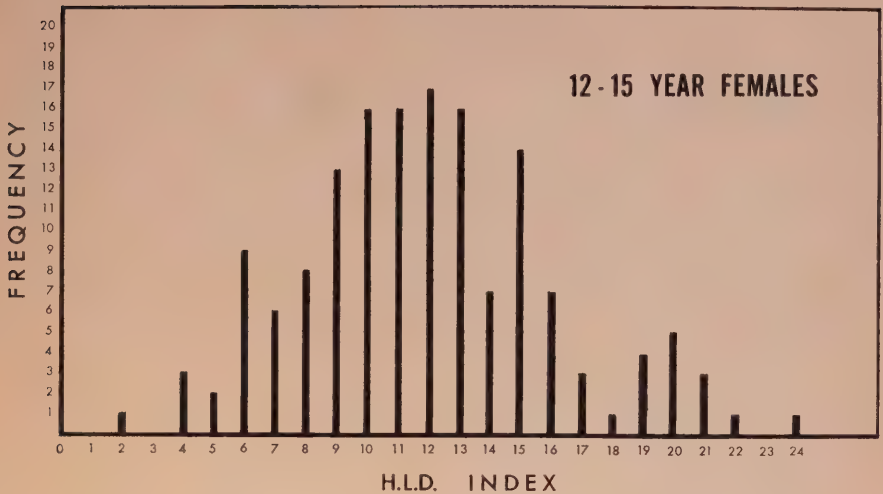


FIGURE 1 Frequency distribution of H.L.D. indices for 12- to 15-year-old females.

achievement. In individual cases, biometric, aesthetic, functional and anatomical standards must also be considered.

Epidemiological studies, particularly the Burlington Study,<sup>4</sup> have provided useful statistical data. These data concern the incidence of measurable manifestations of malocclusion in population groups. It is apparent from these studies that the vast majority of children have some degree of variation from an ideal occlusion. But it should also be stressed that not all of these children are in urgent need of orthodontic treatment.

At the public health level, where preliminary assessment and screening may be carried out by personnel who are not experienced orthodontic diagnosticians, neither an absolute ideal nor exacting individual considerations are practicable. The public health worker has the difficult problem of determining what types and what degree of malocclusion should be eligible for treatment under a health plan. When the New York State authori-

ties approached this problem they found present concepts of the term "malocclusion" to be unacceptable for public health purposes. They sought instead to define "orthodontic handicaps." It was their contention that such handicaps could be measured meaningfully with a Boley gauge. Seven basic observations were made, namely for: cleft palate, traumatic deviations, overjet, overbite, mandibular protrusion, open bite, labiolingual spread (irregular teeth).

These seven factors were scored and the total score termed the Handicapping Labiolingual Deviations (H.L.D.) Index. This became the basis of qualification for treatment in the New York program. A score of 13 was considered handicapping and indicated that an individual could benefit from treatment under the plan.

This approach is important because it yields quantitative results. Its author concedes that it is still an experimental approach. It was hoped that the arbitrary screening line would select those children requiring treatment, but in practice it

also excluded a number of children who would have benefitted from orthodontic treatment. It was anticipated that the statistical data gained from the application of an index would prove useful in evaluating the treatment program and in determining the significance of malocclusion. To test how the H.L.D. Index might apply to patients in private practice, a group of 12- to 15-year-old females from a previous study<sup>5</sup> were subjected to the H.L.D. analysis. For each patient the H.L.D. Index was calculated and the results tabulated (Figure 1). The mean index was found to be 12.6 which compared favourably with the proposed index of 13.0, below which children were not accepted for treatment in the New York State plan. However, it is evident that this criterion of acceptance for treatment would have rejected almost 60 per cent of the girls at this age level presently undertaking corrective therapy. On the other hand, the majority of cases accepted for treatment would have presented difficult treatment problems requiring extensive and time-consuming therapy at this age level. Consequently it would seem that the index of 13 at this age is relatively high for general use. Even if the qualifying figure is lowered, it does not necessarily give us accurate information regarding the significance of morphological defects as they relate to the physiological and socio-psychological well-being of the patient.

Some orthodontists regard the index method of symbolizing severity of malocclusion as a useful guide. But it remains a rough and ready guide presently used in programs which attempt to limit the number of patients acceptable for treatment. The attempt to develop indices simply underlines the need for developing standards that will represent the actual significance of existing conditions to the patient. In addition to the importance given to the morphological aspects of malocclusion, recognition must be given to those seemingly abstract qualities of malocclusion—the physiological and

psychological aspects which are significant of have potential significance to the present or future well-being of the patient. Measurement of morphological deviations from an ideal "normal" may or may not give us this necessary information. Therefore it is time we studied quantitatively the relationships that may exist between physical defects and the physiological and psychological effects of malocclusion. This must be done if we are to think scientifically about measuring and symbolizing malocclusion in a meaningful manner.

#### PHYSIOLOGICAL AND PSYCHOLOGICAL EFFECTS

An individual is motivated to seek orthodontic treatment either when pain, malfunction or disfigurement are fairly severe. Presently, less than 1 per cent of the population is receiving orthodontic care.<sup>6</sup> Moreover, most of the public are still unaware or only vaguely aware of what the orthodontist can do for them. And since childhood is usually the stage when orthodontic treatment is applicable, orthodontic patients are subject to their parents' volition. While many parents may be aware of a gross irregularity, a substantial number are referred to the orthodontist by the family dentist. There are a complex of other factors such as cultural patterns, socio-economic conditions and racial characteristics which influence the public to seek or ignore orthodontic treatment. For example, a survey by the national Opinion Research Centre of the University of Chicago<sup>7</sup> in 1960 showed that the great majority of people believed that dentofacial appearance is important in making friends, seeking public office, getting a job, and gaining companionship of the opposite sex. Since the public does apparently equate dental appearance with success in so many fields of human pursuit, we should know just what the public's criteria of satisfactory dental appearance are. Reciprocally, the public should be educated as to what improvements in appearance, function and



dental health orthodontic treatment can achieve.

Though the factors which influence public criteria are vastly different to the factors involved in dental or public health criteria, the former are nonetheless real. In its early stages, cancer provides no visible symptoms severe enough to motivate a strong urge for treatment. What motivates the patient is the significance of cancer to him. Similarly, it is the significance of malocclusion to the patient that motivates him to seek treatment; the physical aspects may be quite irrelevant, or at least disproportionate to the need that the patient feels. A girl of 10 in a median socio-economic class may be extremely self-conscious about a single irregular tooth which causes neither pain nor malfunction; a boy of 10 in a rough and ready environment may smile and yet be oblivious of far more extensive disfigurement.

Indices must be related to the significance of the condition that they symbolize, both from the physiological (dental health aspects) and the psychological (appearance) standpoints. To date, very little research has been undertaken in these areas. Until we can fully understand the physiological significance of a particular malocclusion or until we can measure the psychological trauma resulting from a dentofacial irregularity, the indexing of a selection of morphological variations from an arbitrary ideal is meaningless, particularly if the defects hold little significance for the patient. Until further studies are undertaken to clarify these areas, presently existing public health indices representing degrees of malocclusion can only stand as shadow images of their true public significance.

#### PSYCHOLOGICAL MEASUREMENTS

While malocclusions admittedly are strictly physical abnormalities, their impact upon the patient is almost wholly psychological. The psychological effects

of malocclusion should be classified, counted, measured and weighed. There are adequate scientific techniques to let us make such evaluations. Two basic methods are available to assess public opinion. We can survey overt responses by the direct questionnaire, or we can probe covert responses by observing individual behaviour within a group. If you ask an audience "Would you gamble your family car, your family's lives and your own in order to catch the first two minutes of the last show?" the overt responses will be almost entirely negative. But having been delayed by your question, these same people will break all rules of the road so as not to miss the first two minutes of the last theatre performance. That will be their covert response.

Questionnaires generally provide overt patterns. That is the innate limitation of such a study as the one undertaken by National Opinion Research Centre. Furthermore, such a study does not quantify the degree of malocclusion which causes public concern, nor does it measure the amount of concern caused. Despite these limitations, though, a scientific application of the questionnaire technique might well add to our knowledge of public attitudes regarding malocclusion, particularly if it was related to other data which are being amassed on covert reactions of the public.

Two reports of the latter type should be compared. Rickets<sup>8</sup> in May 1960 discussed cephalometric communication and suggested terms of reference which can be applied in conjunction with radiography for the analysis of orthodontic conditions. Tables are given which indicate the prevalence of varying degrees of malocclusion for each class among patients who have actually sought treatment. Rickets keeps aesthetic considerations constantly in mind and has related his findings to such factors as age and sex. These aspects enhance the terms of reference which should be prerequisite to further studies. In a previous study by the author<sup>5</sup> initial dental casts of 1,000 orthodontic patients were examined. Here

again the sample is that of persons who had sought treatment. This sample consisted of families of similar socioeconomic status from Metropolitan Toronto, Ontario. Since the parents of these patients had invested time and the inconvenience of big city travel in order to gain treatment for their children, we may conclude that the malocclusion represented by the dental casts of these children also reflects a significant degree of concern in this segment of the public. Thus we might operationally define the degree of malocclusion that will evoke treatment-seeking concern in a population of this status as that indicated by the mean value of these casts.

Such a definition, of course, is subject to variations from practice to practice. Orthodontists may specialize in a phase of practice that is confined to this segment of the public. Some of the casts may have represented children of parents motivated simply by a desire "to be on the safe side" or by a need to pacify the concern of a relative. The data then must be considered qualitatively rather than with precise quantitative validity. But they do provide some further clues and some basis for further studies.

When Ricketts' findings are compared with those of the author, certain similarities appear to be significant despite geographical and other differences in the

samples (Table 1). Only a slightly higher number of girls were brought for treatment. The majority of patients were in the seven-to ten-year age group — the period of eruption of anterior teeth. The complex problems associated with diagnosis and treatment of distocclusion and mesiocclusion comprise approximately sixty per cent of the malocclusion samples. It is pertinent to note here that actual cases of malocclusion referred for treatment occur largely in the relatively mature age groups. Treatment is far more time-consuming when extensive mechanotherapy is required at these age levels. Thus cases requiring therapy should be recognized at an early age. Screening procedures which do not ensure this are unsatisfactory.

#### AN HYPOTHESIS CONCERNING "SIGNIFICANCE"

We may postulate the significance of a defect by comparing the frequency of its occurrence in the total population to the frequency with which treatment for it is sought. If a particular defect is rarely seen in the consulting room but is nonetheless prevalent in the population, such a defect may not be significant in the public mind. To make such a comparison, data published by Grainger<sup>4</sup> in 1960 from a representative population in Burlington, On-

TABLE 1 Comparison of patients in two orthodontic practices according to sex, age and occlusion.

| Attribute    |               | Practice location |                   |
|--------------|---------------|-------------------|-------------------|
|              |               | Toronto           | Pacific Palisades |
| Sex          | male          | 435               | 454               |
|              | female        | 565               | 546               |
| Age          | 3 to 6        | 46                | 61                |
|              | 7 to 10       | 443               | 497               |
|              | 11 to 14      | 369               | 343               |
|              | 15 and over   | 142               | 99                |
| Malocclusion | neutroclusion | 405               | 399               |
|              | distocclusion | 558               | 584               |
|              | mesiocclusion | 37                | 17                |

TABLE 2 Comparison of the incidence of various manifestations of malocclusion occurring in a Toronto orthodontic practice and in a representative population in Burlington, Ontario.

| Attribute                  | Toronto practice % | Burlington population % |
|----------------------------|--------------------|-------------------------|
| Malocclusion               |                    |                         |
| Neutroclusion              | 40.5               | 63.5*                   |
| Distocclusion              | 55.8               | 33.4*                   |
| Mesioclusion               | 3.7                | 3.1*                    |
| Crossbite                  |                    |                         |
| Anterior                   | 10.2               | 1.9                     |
| Posterior buccal           | 11.5               | 1.0                     |
| Posterior lingual          | 12.2               | 5.9                     |
| Spacing                    |                    |                         |
| Premature loss             | 19.1               | 15.2                    |
| Open bite                  | 5.2                | 4.5                     |
| Impacted maxillary cuspids | 2.3                | 1.4                     |
| Congenital absence         | 6.0                | 7.1†                    |

\*per cent of malocclusions.  
†for 10-12 years.

tario were compared with findings from the author's sample derived from a Toronto orthodontic practice<sup>5</sup> (Table 2).

It may be seen that crossbites are of relatively low prevalence among the general population (as sampled in the Burlington Study). They are, however, a comparatively common cause of complaint to the orthodontist. On the other hand, spacing defects due to premature loss of deciduous teeth, open bite and impaction or congenital absence of teeth are apparently not as significant in inducing requests for treatment as their prevalence in the population might warrant. It would seem then that crossbite malocclusions induce greater public concern than spacing problems.\* This can hardly be a scientific conclusion based on so limited a comparison, but it does at least suggest the sort of conclusion that can be achieved by systematic analysis of data when the study is oriented to the public attitudes towards malocclusion.

\*A basic comparison and trend is indicated here for purposes of illustrating a principle. In practice, interpretations may be complicated by multiple or interrelated defects.

Public opinion in regard to orthodontic care, incidentally, may be of considerable significance insofar as it influences the expenditure of public funds in a health program. To the orthodontist, a manifestation of malocclusion is a certain divergence from a physical norm. To the patient, a malocclusion manifests itself when it causes him concern. The degree of concern may have no relation to the degree of physical divergence or to future dental health.

That the degree of public concern varies with age and sex is indicated by the graph in Figure 2 based on data from the author's previous study in Toronto.<sup>5</sup>

There is in the case of males a consistent decline with advancing age in the number of patients presenting for treatment. In the case of females, however, there is a significant rise in the number

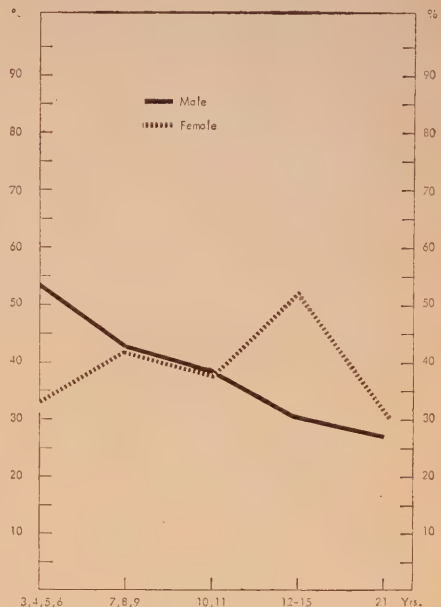


FIGURE 2 Incidence of class I molar occlusion by age and sex.



of patients seeking treatment during the adolescent years. Certainly these are the years in which self-consciousness is strong in a child, particularly in the female insofar as appearance is concerned. Inasmuch as the presentation of a child for treatment is a parental decision it may be inferred that Class I malocclusions are not considered as important in boys as in girls. Such questions must be adequately resolved if significant standards of malocclusion are to be obtained.

#### SUMMARY

It is essential that orthodontic and public health workers review existing data and seek new data to define a more accurate and significant concept of malocclusions which merit treatment. The measurement of the morphological variations of malocclusion must be oriented to their somatic, social and psychic significance to the patient.

Of primary importance is the need to quantitate the present and potential effects of malocclusion on the total health of the entire stomatognathic system. In addition, the attitudes of the public and the relative importance that the public attaches to the varying types and degrees of malocclusion must be considered in formulating standards for selecting the cases of malocclusion most needful of treatment.

#### RÉSUMÉ

*La popularité des systèmes d'assurance-santé a mis en lumière les traitements d'orthodontie. Il faudra donc trouver des méthodes pratiques pour choisir les patients qui ont besoin de traitements d'orthodontie.*

*Les normes utilisées pour dépister les cas de malocclusions se sont avérées inadéquates, parce qu'elles se basaient uniquement sur des mesures mathématiques, sans évaluer la portée psycho-*

*logique des malocclusions sur les patients. Il est vrai que les malocclusions sont des anomalies physiques, mais leur répercussion dans le public est surtout psychologique.*

*La réaction d'un dentiste en face d'un cas d'orthodontie et celle d'un profane sont totalement différentes, à moins que le cas déclenche des douleurs ou amène une dysfonction grave. Ce fait a été prouvé par une comparaison établie entre un segment de la population de Burlington, Ontario et un échantillonnage des patients de l'auteur, à sa clinique de Toronto. Des patients se sont souvent présentés pour faire traiter des cas d'occlusion croisée, quoique ces cas soient relativement assez peu fréquents au sein de la population en général. Par ailleurs, les demandes sont assez rares pour des cas de distèmes causés par la perte prématurée de dents primaires, d'occlusion ouverte, de dent incluse ou d'anodontie.*

*Il est important d'évaluer les effets actuels et futurs des malocclusions sur la santé de tout l'appareil masticatoire. Mais, de plus, il faut tenir compte, avant d'établir un système pour déceler les cas qui ont le plus besoin de traitements, des réactions du public et de l'importance qu'il attache aux divers types et au degré des malocclusions. La question d'autant plus d'importance que l'opinion publique au sujet de l'orthodontie jouera un rôle considérable, car elle sera de nature à influencer la dépense des deniers publics dans les plans d'assurance-santé de l'avenir.*

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## The specialist and dental health programs

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The times we live in are often referred to as the age of specialization. As far as can be determined the first use of the term specialist was in reference to a medical practitioner who devoted his attention to the study or treatment of a particular disease. Today it is a poor vocation of any kind which does not have its specialists. The modern kitchen appliance is not repaired by an ordinary plumber or electrician but by a specially trained individual. For a second appliance another specialist is required. Apparently specialization is a sort of penalty we pay for the intricate type of society we live in.

One way of explaining the social movement taking place is the effort to get away from the complications of life, particularly in the economic sphere. As a consequence we have what is known as social or economic security. A direct connection exists between the age of specialization and social security. Over-specialization to some measure defeats itself. When over-extended, the public at large seeks means of overcoming the difficulty. Many solutions are proposed and effected. Unfortunately, many of these solutions are

faulty but will not be reversed except by proven failure. Automation and data processing are methods whereby machines replace the specialist. Already some studies indicate that certain activities now performed by professional men will be done in some future period by such intricate machines more accurately and with greater dispatch.<sup>1</sup>

Over the last two decades the interest of the public in all kinds of health services has increased tremendously. This development has led to action, political or otherwise, on the part of the public, which has not always been to the liking of the health professions. Until recent years the health professions themselves determined how, when, where and by whom health services were to be performed. Now we live in a world where many people, outside the professions, are determined to make these decisions. The demand is, in some cases, that the consumers of the services have a large part in determining the nature and method employed in rendering health services. In other situations effort is made to possess practically 100 per cent of control over services.

Admittedly, grave problems exist for which the profession must make every effort to find solutions. However, it should

George Wellington Grieve Memorial Lecture presented at the Annual Meeting of the Canadian Dental Association, Toronto, May 20, 1963.  
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be emphasized that the increased public interest in health affairs is not necessarily all detrimental. It is also a great asset. This is exemplified in the greatly increased public support for dental education and research during recent years.

A matter of real concern is the position of the specialist in future developments of dental health programs. Real difficulties respecting the specialist have arisen in both compulsory government-controlled and voluntary service plans. One thing is certain: prepayment plans for dental services cannot continue for long to be written "specialist services excluded." In some countries it was found virtually impossible for the profession to come to satisfactory agreement on the issues involved. As a consequence the government or other authoritative body made snap decision at the last hour. Such circumstances are to be avoided. The main points involved fall under four headings:

1. *Recognition.* — The initial criterion is a proper form of recognition of specialists through rigid standards of qualification. Such recognition is fundamental to everything else that appertains to the position of the specialist in dental service plans of any kind. For this reason the Canadian Dental Association is now in the process of seeking legislation to establish a College of Dentists on a national basis. This is being done with the full support of the ten provincial licensing boards and the recognized specialty groups. Such a college will establish proper academic qualifications, conduct examinations in the respective specialties and grant credentials to be recognized by the provincial boards. It is hoped that this effort will provide a satisfactory facility through which will be produced specialists of unquestioned standing. The Association hopes that, through this College, division for the intended purpose will occur without being divisive.

2. *Method of Payment.* — A dentist depends for his livelihood on his use of

time and professional skill. Specialists, by virtue of their greater skill in a particular area and the sacrifices that they have made to attain that greater skill, are entitled to a higher remuneration per unit of time than are general practitioners. Up to this point the position is clear. Complications set in when an attempt is made in dental service plans to recompense both the specialist and the general practitioner on a satisfactory basis. As inferred earlier, this point constitutes one of the great problems in health service plans. Study of service plans in various countries shows considerable variation in the method adopted. In government-sponsored plans there tends to be great finality about the method initiated. Unfortunately, in some cases the method was autocratically adopted, often due to lack of agreement among specialists themselves. The matter needs careful study by the specialty groups and recommendations on a reasoned basis should become available for use when need arises.

3. *Reference of Patients.* — The specialist is the one who should take care of special cases.<sup>2</sup> In the operation of service schemes finance and administration become dominating influences. Ease of administration is often a deciding factor in the method of operation. Budgets become fixed so that cost usually determines the direction of service. Of the service plans in operation, both voluntary and government-controlled, the difficulty arises respecting the specialist's fee for the patient who goes directly to the specialist. The specialist's fee is allowed for the patient referred to the specialist by the general practitioner. Looking at this point strictly from the financial side, control is necessary. However, this matter has been the cause of much controversy among specialists.

4. *Integration.* — Among the proposals for overcoming the difficulties of both payment for services and reference of patients is one known as integration of services. This proposal may take several



forms and I shall only outline one. In either urban or rural areas a working arrangement may be established whereby specialists' services are strategically located amidst general practitioners of the whole area. A central administrative office is necessary. The framework of the plan takes care of remuneration of both specialists and general practitioners on an equitable basis mutually agreed upon together with the reference of patients. Co-operation must exist between practitioners in the scheme. Such a plan works well when patients of the area are members of an insurance plan but can also operate advantageously where no insurance plan exists.<sup>3</sup> This particular plan is flexible in nature and acceptable from the fact that control is retained within the professional group. It is unlike the usual group practice where the practitioners are situated together in one building. The plan operates with minimal disturbance to established practices.

#### POSITION OF SPECIALISTS

While the literature is rather sparse on the subject, the position of specialties in dentistry is a matter of increasing discussion at dental meetings. In 1955 a meeting was called in Chicago, under the auspices of the American Dental Association, for the purpose of allowing all groups within dentistry to present their claims for specialty recognition. In a two-day session, an amazing number of groups made presentation. Even to the enthusiast for specialization, the number appeared ridiculous.

The trend of thinking today is for reduction in the number of specialties rather than any increase. Certain factors must be taken into consideration respecting the future of dental specialties. The changing nature of the distribution of health services, the fact that the type and number of specialties change in direct response to demand and the contribution of the specialties to the health

security of society are all to be taken into consideration in determining the future pattern of the specialties.

As an example only, and not to be considered as a personal conclusion of any kind, one of the expressed current ideas is along the following lines of reasoning. Dentistry is in reality already a specialty, as a specialty of medicine. Orthodontics and paedodontics are rapidly growing together and will probably merge as one specialty. Several groups within dentistry, both recognized as specialties and not, fall into the medical-dental area and will eventually become one or perhaps two specialties. The general practitioner, who in one sense is already a specialist, will cover other areas of dental practice. This proposal presupposes an elevation of standards for the general practitioner. Again, let me emphasize that this is presented only to illustrate one type of thinking which is current about the future of dental specialties.

The point to be emphasized is that need exists for careful study of the future of specialties in dentistry. This need arises from both the pressures of society and the current health planning for the future. An obligation falls upon the profession, and in this area particularly upon the specialty groups, to satisfy the needs of the public as fully as possible. This position holds whether or not government-controlled or voluntary health service plans come into being. One of the main objectives is to control our own services and this can only be done by supplying effective answers.

#### ORTHODONTIC SERVICE

Turning more directly to the specialty of orthodontics, two broad philosophies exist in respect to orthodontic services: first, that it is best to hold to an objective of 100 per cent perfection in result; second, that the objective should be to obtain an average 75 to 80 per cent cor-

rection. The first objective means concentration on relatively few patients while the second gives opportunity for the orthodontist to enlarge the number of his patients substantially. The first objective is, by and large, the philosophy of orthodontic practice on the North American continent while the second is to be found elsewhere. At our present stage of development in health services, it is important that this crucial point be considered carefully. It is quite conceivable that orthodontic health might mean something different for a truck driver, an actress, a nun and a singer. The decision reached can determine the future place of orthodontics as a specialty. Its meaning may be that orthodontists will furnish leadership or that the future will be determined by others.

Perhaps it should be said that the social trend in health services is to spread the services. As pointed out by the president of the American Association of Orthodontists in his presidential address last year, twenty years ago only a few children received orthodontic care. Today a vast number of children are seeking this health care. At one time only the wealthy sought orthodontic service but today parents in all financial brackets aspire to full medical and dental care for their children. Further, he states that herein lies the first and major problem of orthodontics and he advises taking the initiative.<sup>4</sup>

Neither is it my purpose nor am I capable of discussing the intricacies of orthodontic treatment care. But, I am certain that a problem which is real exists in that ways and means of providing orthodontic care on a wider scale must be found. In addressing lay groups it has been my experience to find orthodontic care second only to the caries problem in the public mind. Orthodontists, not others, should provide the solution.

What is the problem? In Canada there are approximately 6,000,000 children within the age range for orthodontic treatment. Of these 10 per cent, or 600,000,

have crippling conditions serious enough to require orthodontic treatment. This means a potential of approximately 5,000 patients for each Canadian orthodontist if the necessary services are to be performed. A rough estimate is that not more than 6,000 patients complete orthodontic treatment in Canada each year.

Of course no one expects this problem in total to fall on the shoulders of orthodontists in any immediate fashion. However, there is evidence of it gradually coming into being. With the development of dental health plans the demand for orthodontic service will increase more rapidly than in the past. The Canadian Dental Association proposes and supports a program of prevention and control. Such a program involves the younger ages and is bringing orthodontic service forward in a new light.

Related thereto are two matters of concern: first, the use of auxiliaries in orthodontic practice, and second, what part in an orthodontic program can be taken by the general practitioner. Both these matters are conducive to increasing the productivity of orthodontic services.

In a recent issue of the *American Journal of Orthodontics* P. V. Ponitz states that orthodontists fail to recognize the talents of competent assistants; that many tedious, non-diagnostic and non-treatment tasks can be delegated to dental assistants and hygienists with the result that considerably more could be accomplished for a greater number of patients.<sup>5</sup> There is every reason to believe that greatly increased productivity would result through the employment of well-trained auxiliaries in orthodontic practice. Basic training for such auxiliaries should be the same as for other auxiliaries, but their clinical training should be in the orthodontic field. The training of efficient auxiliaries is one method of meeting in part the problem of orthodontic service.

The size of the problem militates against the possibility of orthodontists handling the whole situation. Even a considerable increase in orthodontic personnel would not enable us to cope with

the treatment needs. The statement is made that the demand for orthodontic service is not being met at present. If the inhibiting economic factor were removed to any extent the position would become most difficult. Indeed, any increased demand for orthodontic service, whether or not sponsored by a health program, would place an increased burden on Canadian orthodontists. Ways and means of lightening this load should be sought diligently. Earlier it was said that the specialist should deal with special cases. This should apply to some degree, but perhaps not the same extent, to orthodontics as well as to other specialties, such as oral surgery. It seems reasonable that the general practitioner is capable of participating, particularly in the area of incipient or preventive orthodontics. Study should be made respecting the degree of participation. Where necessary the undergraduate curriculum should be altered to provide proper training to meet these needs.

To the observer some rather notable points respecting participation of general practitioners are reported by the Burlington Orthodontic Research Centre:

1. The statement is made that in a survey of school children in Burlington one child was found receiving orthodontic treatment and at least three to four hundred needed orthodontic treatment. A consultative orthodontic service was set up with a qualified orthodontist in charge. Forty-nine private dentists participated and 413 children were examined. Of great significance is the statement in the report that treatment for 302 of these children was rendered by private dentists in co-operation with this consultative service and 124 were referred to specialists. It is notable that through this consultative service it was found that 77 per cent of these children could be treated by private dentists and 23 per cent required the services of an orthodontist. The report points up the long-range means of increasing treatment of malocclusion as being by teaching undergraduates so that

similar service can be rendered without constant supervision.<sup>6</sup>

2. Report No. 2 states, "the place of the general practitioner in this field is becoming clear in that a rather high percentage of the cases are of a fairly simple nature and it should be possible to teach the treatment of these simple cases at the undergraduate level providing enough time is made available in future dental faculty curricula."<sup>7</sup>

3. Further, in report No. 3 it is pointed out that, as a basic minimum and not including any actual mechanical therapy, the general practitioner should be intercepting a rather high percentage of malocclusion caused by simple environmental or tooth tissue factors.<sup>8</sup>

4. In this connection it is also notable in report No. 6 that work is being directed toward the establishment of a treatment priority concept. This is an important factor in participating in any planned program.<sup>9</sup>

No one believes that plans demanding greatly increased orthodontic services are going to be introduced overnight. However, there are definite trends indicating an increasing demand and such matters in the health field are moving comparatively rapidly these days. The training of proper auxiliaries and the orientation of general practitioners are both difficult and lengthy procedures. For these reasons effort should be put in motion toward a solution of these matters.

#### GENERAL OBSERVATION

Recently G. H. Wern said, "The philosophy and curriculum of dental orthodontics must continually strive to maintain a sensible balance of clinical and basic instruction. It appears most necessary to guard against too much training and not enough education." In this same article the writer quotes J. R. Thompson as follows, "We in orthodontics must not make the mistake of being content to train the fingers. Let us foster development of the mind."<sup>10</sup>



Based upon these two statements I desire to make an observation. First, let me say that the advancement in orthodontics has been phenomenal in a comparatively few years. Orthodontic service has reached unmatched excellence. However, the time may have arrived when some re-assessment with a look to the future should be made.

Within a professional society a specialist must depend upon basic knowledge, and not the technique of his profession, for survival in general society. After all, society has a large investment in a professional man. For the specialist the size of the investment increases substantially. Value is anticipated by the public. To state the point bluntly, society will not stand for long the cost of a Ph.D. education for the purpose of performing a few techniques.

Sooner or later, dental educators, in both undergraduate and graduate education, will be required to re-assess their curricula on the basis of what constitutes true education and what is purely a training program. True education rests upon fundamental knowledge while a training program encompasses the use of techniques. Knowledge depends upon the 'why of things' and techniques are represented by 'do this and get that result.' The 'why' is true education, the 'do this and obtain that' is training. The important point is that the proportion of education and training content must be in proper keeping with professional stature.

One man's cursory review of orthodontic literature over the last decade produces certain conclusions. Commendably, there is gradually coming into this literature a greater recognition of responsibility to society as a whole. This point is mainly noted in the published presidential addresses. Roughly, the literature may be divided as follows: over 50 per cent of articles are concerned with techniques and techniques alone; less than 20 per cent can be even remotely classified as basic knowledge; about 17 per

cent have to do with research related directly to techniques; and the balance is made up of surveys, history, practice administration and other matters. These percentages may be very practical but they are not professional in its true sense. Surely the physiological and pathological reasons behind the techniques should occupy more space.

To this observer a weakness appears to exist in the science of orthodontics through an insufficiency of research in the area of basic knowledge. There would seem to be great emphasis upon the investigation of various techniques but a lack of supporting biological research underlying them. If this be true, this lack constitutes a fundamental weakness from the professional standpoint.

With the future in mind I emphasize this point. In the past the professions assessed themselves and the public generally accepted the decision. Now re-assessment of the groups within society is taking place and decisions respecting professional groups are being made by those outside the professions. Examples are available where public bodies have decided to permit recognized professional techniques to be performed by other than professional personnel. The true profession depends for its station in life on basic knowledge.

To illustrate on a practical basis, diagnosis is properly based upon basic knowledge derived through true education. Whether or not the patient will benefit from treatment is a biological decision. Decision respecting the type of treatment depends entirely on physiological or pathological knowledge. These statements are repetition of what we all know so well. My purpose in restating them is simply to emphasize them in the best interests of future orthodontic practice.

This point has far more in it than a passing interest. Indeed, the distinction within a profession between knowledge and technique or between true education and training has claimed the interest of thinking men both inside and outside the professions. Jacques Barzun in his book,

*House of Intellect*, has this to say: "The professional's fallacy, in short, is to make no distinction between knowing the subject and knowing the craft."<sup>11</sup> Indeed, the matter is so important that it may quite possibly become more and more the basis on which society will judge what really is a profession. René Dubos, a leading bacteriologist and member of the Rockefeller Institute for Medical Research, in his book entitled *The Torch of Life* says, "The techniques and equipment that are the most up-to-date expression of knowledge during school years are usually outmoded by the time the student begins to function in adult life. The only knowledge of permanent value is theoretical knowledge . . ."<sup>12</sup> Professional education, both undergraduate and graduate, which contains proper and proportionate content of true education, can expect graduates to adapt themselves readily to changing patterns of practice.

My effort in this presentation has been to bring to your attention certain matters which are pertinently related to dental specialties in today's health activities. Certain observations are made which have been used to bring out the points and of course are subject to correction. My intention has not been to be critical, but, even if wrong in conception and resulting in arousing discussion, something will have been accomplished. As expressed several times, need exists for study of these matters by specialists. If the objective of controlling our own services is to be attained, plausible answers must be found. These answers should be available in advance of a time of critical need.

Reference to health service plans, particularly if government sponsorship is involved, causes many dentists to throw up their hands in despair. Other dentists take an adamant stand that no plan will disturb their practices. Experience has shown that plans developed by the profession which go as far as possible in meeting public demand have a pretty good chance of acceptance. A profession

cannot, and must not, compromise beyond a point where the profession knows full well that services cannot be adequately rendered. However, even without the development of health schemes of any kind the first obligation of a profession is to serve the public to the best of its ability. Consequently, the points I have covered in this paper require study regardless of whether the future planning be entirely within the profession or from outside the profession.

Let us not concentrate on the dire consequences of the adoption of weird proposals. Let us look diligently at the opportunities offered during these rapidly changing times. Let us be prepared to offer the best solution to meet the problems of dental health services for the public. Reactionary attitude accomplishes nothing, as has been amply illustrated in country after country. Opportunity is offered in Canada today for the dental profession to make the proposals. If dentistry presents well-reasoned solutions, taking into consideration both the attitudes of the profession and the public, there is reasonable chance of their adoption. In any event, the profession will have done its duty as citizens of a great country.

#### RÉSUMÉ

*L'Association dentaire canadienne s'adresse au gouvernement pour établir un Collège des chirurgiens dentistes. L'objectif de ce collège est de reconnaître les spécialistes par des standards rigides de qualification. Les spécialités élaboreront des épreuves telles que les certificats qui seront décernés par le collège seront reconnus par les organismes légaux des provinces.*

*Les spécialistes, à cause de leurs connaissances plus poussées et de leur plus grande compétence dans un domaine particulier, ont droit à une rémunération plus élevée que celle des omnipraticiens. Les groupes de spécialistes doivent songer sérieusement à cette question et sou-*

mettre des recommandations appropriées, quand le moment sera venu.

Des contrôles s'imposent quand il s'agit d'honoraires de spécialistes. La plupart des systèmes d'assurance dentaire paient des honoraires de spécialistes seulement quand les patients ont été référés par des omnipraticiens. Ce problème a été l'objet de longues discussions chez les spécialistes eux-mêmes. On a suggéré, pour obvier aux difficultés du paiement des honoraires et de références de patients, un système par lequel le spécialiste exercerait au sein d'un groupe d'omnipraticiens dans une région donnée. On organiserait un bureau qui percevrait les honoraires du spécialiste et ceux des omnipraticiens. Il faudrait nécessairement une collaboration entre praticiens pour établir une base équitable de rémunération. Ainsi la profession garderait le contrôle de ce domaine.

Il y a deux philosophies au sujet de l'orthodontie. L'une prétend que les traitements d'orthodontie devraient donner des résultats parfaits. L'autre, qu'il faut se contenter d'une amélioration qui se situe entre 70 et 80 pour cent. La première conception se trouve dans le continent nord-américain; l'autre, ailleurs. Il faut concilier ces deux philosophies avec le fait qu'il y a au Canada 600,000 enfants qui souffrent de malocclusions, qui ont besoin de traitements d'orthodontie. Cela fixe un potentiel de 5,000 patients pour chacun des orthodontistes canadiens. Et pourtant, à peine 6,000

patients reçoivent actuellement des services complets d'orthodontie. La demande du public pour des traitements d'orthodontie augmente sans cesse et, dans son esprit, les problèmes d'orthodontie viennent en second lieu après celui de la carie dentaire.

Il faut rendre les services d'orthodontie plus disponibles. Le praticien général doit participer plus activement à l'orthodontie, plus particulièrement dans le domaine de la prévention. Il faut se servir d'une façon plus intelligente des auxiliaires. Les recherches en orthodontie doivent s'occuper davantage des sciences de base et moins des techniques.

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C.D.A. War Memorial Essay Competition • "Management of dental emergencies" is the title for the 1964-65 Canadian Dental Association War Memorial essay award competition. The title was chosen by the War Memorial Awards Committee and confirmed by the Association's Executive Council. Prize-winning essays are published in the *Journal of the Canadian Dental Association*. First and second prizes are \$200 and \$100 respectively.



## Acrylic gingival veneer inserted following periodontal surgery

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It is interesting to note that although an appliance such as is being reported here probably finds widespread use in periodontal practice, no mention of it is found in the writings of Beube (1953),<sup>1</sup> Glickman (1958)<sup>2</sup> and Goldman et al (1960),<sup>3</sup> Swenson (1959),<sup>4</sup> Fenn et al (1961)<sup>5</sup> or Nagle and Sears (1962).<sup>6</sup> That aesthetics following gingivectomy may be a problem is recognized by Fish (1952)<sup>7</sup> who advocates that in some cases maxillary labial pockets should not be eradicated surgically. This would appear to be an unsound practice and it would seem preferable to eradicate the defect and restore the aesthetics with a prosthesis. Such a prosthesis is briefly described by Emslie (1955)<sup>8</sup> and Wade (1960).<sup>9</sup>

With an incompetent upper lip and the exposure of the maxillary labial gingiva either at rest, or during function such as talking, laughing and smiling, periodontal surgery may produce such an unaesthetic result that the patient may request extraction of the anterior teeth rather than their restoration to health and function.

This case is presented to illustrate the procedure and practicality of an acrylic

gingival veneer following gingivectomy and the excellent results that can be obtained by such an appliance.

### CASE REPORT

*History and Examination.* — Mr. C.D., aged 30, was referred by his dentist to the clinic of the Faculty of Dentistry, University of Manitoba for periodontal therapy and presented on October 30, 1962. The patient's previous visit to his dentist was in June 1962. At this time he had a prophylaxis and his dentist suggested that he should seek periodontal treatment at the Faculty clinic on his return to Winnipeg. The patient presented with no complaints and as far as could be ascertained from his previous dental history he was not aware of anything abnormal about his gingiva.

On examination, the most striking clinical feature was the absence of interdental papillae and the formation of interdental craters from the left first bicuspid region to the right first bicuspid region in the maxilla (Figure 1), between the left lateral incisor and cuspid, and also between the left first molar and second molar in the mandible. The gingiva was pink, stippled, of firm consistency and showed a slight tendency to bleed on probing. Calculus was found supragingivally lingual to the mandibular anterior incisors and sub-gingivally on those teeth adjacent to interdental craters. Pocketing with an average depth of 5.5 mm. was also associated with the interdental crater formation. A tentative diagnosis of chronic ulcerative gingivitis associated with a chronic periodontitis was made.

From the Department of Periodontology, Faculty of Dentistry, University of Manitoba, Winnipeg.

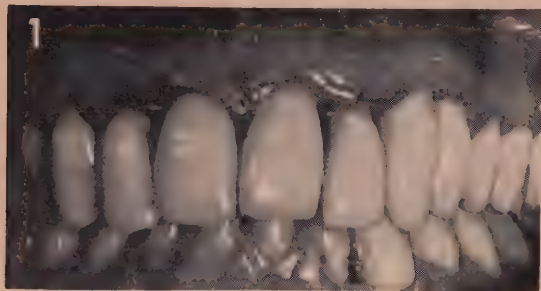


FIGURE 1 Appearance of the patient's mouth at the initial examination showing the loss of interdental papillae in the maxilla.



FIGURE 2 Appearance of the mouth one month following gingivectomy in the maxilla.



FIGURE 3 The acrylic gingival veneer in place showing the restoration of aesthetics.

*Treatment.* — Impressions of the maxilla and mandible were made with alginate and study casts poured in dental stone. Scaling and curettage of the whole mouth was commenced and the patient was instructed to brush his teeth by the modified Stillman technique using a hard toothbrush. The use of interdental wood points (*Stim-u-Dent*) was also demonstrated and the patient instructed to use them as an adjunct to his tooth brushing.

Excellent patient co-operation was obtained.

The pocketing in the mandibular left quadrant was treated by electrosurgery using the *M.S.5* electrosurgical unit and the area covered with a gingivectomy pack. One week later the pack was removed. The patient was provided with a soft toothbrush and instructed to use this in the same manner as demonstrated for the hard toothbrush.

One week after the electrosurgery, gingi-

vectomy using Blake knives was performed in the maxilla from the mesial of the left first molar to the mesial of the right molar. Osteoplasty with diamond stones was also performed in the anterior region from cuspid to cuspid. A Kirkland pack was used to cover the gingivectomy area and was removed one week postoperatively. Healing was satisfactory. Therefore the patient was instructed to use the soft toothbrush and interdental wood points as before and to return to the clinic in one month (Figure 2).

A special perforated acrylic tray was constructed on the labial and buccal surfaces of the maxillary study cast. The tray was extended apically to the mucobuccal fold, distally to the mesial of the first molars and occlusally and incisally to include the incisal edges and buccal cusps of the teeth. The final impression was made in D.P. alginate and cast in dental stone. At the same appointment the shade for the acrylic gingival veneer was taken by comparing a *Lucitone* gingival blend guide with the mandibular gingiva. The selection of the shade was later confirmed by colour photographs taken at this time. The mandibular gingival shade was used instead of the maxillary because of a possible shade change in the maxilla following the gingivectomy.

Severe undercuts were blocked out interdentally in the preliminary working cast with wax from the lingual aspect so that the acrylic veneer would only fill the labial and buccal embrasures. The cast was then duplicated with reversible hydrocolloid and the final working cast poured in dental stone. Using the original study cast as a guide, the gingival contour was waxed on the final cast to approximately one thickness of pink base plate wax.

The waxed gingival veneer was invested in a two-section flask with the labial surface uppermost. The pale tone, characteristic of healthy marginal gingiva was reproduced in the acrylic veneer by painting *Lucitone Gingival Blend* around the gingival margins of the teeth on the negative side of the flask. The flask was then packed and processed with light reddish pink acrylic resin (*Characterized Hypro Lucitone*, L. D. Caulk Co.).

The unpolished acrylic slip was inserted and the patient instructed on the necessity of excellent oral hygiene with an appliance of this type (Figure 3).

## DISCUSSION

It will be noticed that the patient's oral hygiene co-operation was assured before

construction of the appliance was undertaken, for it would be calamitous to place such a prosthesis in a poorly maintained mouth. The gingival match that can be obtained by the more recently prepared gingival acrylic resins (Lee 1962)<sup>10</sup> facilitates the construction of an aesthetically pleasing prosthesis. So, although aesthetics is rarely a problem following periodontal surgery, it should be recognized that a satisfactory appearance can be obtained quite easily.

The acrylic gingival veneer is an inexpensive, simple and practical procedure which enables the dentist to carry out the required periodontal therapy while ensuring a result aesthetically satisfactory to all concerned. The posture of the upper lip at rest, and during function such as smiling, laughing and talking, governs the extension of the acrylic veneer apically into the vestibular fold and distally into the buccal sulcus so that the junction of the acrylic resin and gingiva will not be apparent. Distal extension also aids in retention of the appliance.

The patient will be recalled at regular intervals so that a check can be made on the health of the gingiva and the relationship of the acrylic veneer to gingival contour. That there is a remote possibility of a change in gingival contour by means of a "coronal creeping" of the gingiva must be kept in mind, for the appliance may either have to be remade at some time or discarded altogether.

## RÉSUMÉ

*Les auteurs décrivent l'utilisation d'un revêtement en acrylique sur la gencive après une gingivectomie. C'est un procédé simple, peu coûteux et pratique qui permet au dentiste d'effectuer une thérapie de la gencive tout en préservant l'aspect esthétique. La position de la lèvre au repos et en mouvement (sourire, rire et langage) détermine l'extension de l'acrylique en direction apicale et distale dans le replis muqueux, pour masquer le joint de la résine avec la gencive.*

*L'extension distale permet aussi à l'ap-*



*pareil de se maintenir en place. Il faut que le patient collabore au point de vue hygiène, car une prothèse du genre serait un désastre dans une bouche malpropre. Quand le contour de la gencive se modifie en se rétrécissant, il faut refaire l'appareil ou le mettre de côté.*

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## A severe mandibular deformity

A. A. Antoni,\* D.D.S., M.Sc.D., T. B. Van de Mark,† D.D.S., M.D.,  
and Simon Weinberg,‡ D.D.S., Toronto, Ontario

Developmental deformities of the jaws are most often thought of as being congenital in origin. They may, however, be due to other causes occurring during childhood. These deformities result in malocclusion of the teeth, malrelation of the jaws and associated facial disfigurement. Associated psychic disturbances invariably affect those unfortunate individuals afflicted with these deformities. The primary concern of these people is their appearance — they acquire an inferiority complex, become introverts, and suffer a great deal of mental anguish. Functional disabilities also arise. These include speech difficulties, improper mastication and inadequate nutrition. Motivation for seeking surgical correction, although pri-

marily expressed as the desire to correct functional abnormalities, probably reflects the desire to look again like a normal person. A case report of a severe mandibular deformity follows.

### CASE REPORT

*History and Examination.*—This is the case of an 18-year-old white male who was referred to the Oral Surgery Department of the Doctors Hospital, Toronto, by his physician on August 7, 1962. Examination revealed a markedly prognathic mandible deviated to the left side. The remainder of the physical examination findings were within normal limits. The patient's mother stated that she noticed the lower jaw slowly getting bigger and moving to the left side since the patient was 10 years old. Within the last six months, however, she felt that the condition had progressed quite rapidly to the point where it not only presented a serious aesthetic problem but a functional one as well. (Figures 1 and 2), since he could not masticate his food properly because of the abnormal occlusal relationship (Figure 3). The patient denied

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FIGURE 1 Preoperative full-face photograph showing marked deviation of the mandible to the left side.



FIGURE 2 Preoperative profile photograph showing mandibular protrusion.



FIGURE 3 Preoperative intraoral photograph showing marked malocclusion.

having had any diseases, injuries or operations, with the exception of a tonsillectomy which was performed when he was four years old. At this appointment anteroposterior and lateral oblique radiographs were made along with maxillary and mandibular impressions and a wax bite registration.

Radiographic examination showed a markedly enlarged, abnormally-shaped right condyle, with marked lateral bowing of the right vertical ramus (Figure 4).

Many of these conditions can be corrected by excising only one condyle. It has been our experience, however, that whenever we are faced with a very severe abnormality, we can achieve a better occlusal relationship if we free the mandible completely so that we can move it to any required extent and in any desired direction. This we can best accomplish by doing bilateral condylectomies.

After careful study of the radiographs and study models, it was decided to perform a bilateral condylectomy and to position the mandible relative to the maxilla so as to effect an optimum occlusal relationship.

**Surgical Procedure.**—Anaesthesia was induced with intravenous sodium thiopental, after which muscular relaxation was accomplished with intravenous succinylcholine chloride. Endotracheal intubation was then introduced through the right nostril and the anaesthesia maintained with nitrous oxide-oxygen and trichloroethylene flow. The auricular, facial, cervical and circumoral regions were prepared by scrubbing with cetyltrimethylammonium bromide detergent (*Cetavlon*), and an alkyl-dimethyl-benzyl ammonium chloride (*Zephiran*) and organic mercurial (*Methaphen*) tincture. Following this, the patient's head was draped in such a fashion as to expose the auricular regions bilaterally. Two cc. of 2 per cent lidocaine anaesthetic was infiltrated into the left preauricular region. The site of incision was marked and a preauricular incision made, following closely the anterior margin of the



FIGURE 4 Preoperative anteroposterior radiograph showing lateral bowing of the right ascending ramus.

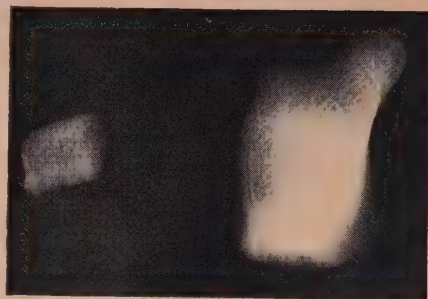


FIGURE 5 Postoperative view of condyles shows a markedly enlarged, abnormally shaped condyle on the right.

capsule re-apposed and sutured with 000 plain catgut. The deep fascia was sutured with the same material, and the skin edges were re-apposed and sutured with 00000 braided black silk. The same procedure was carried out on the right side, and a markedly enlarged, abnormally shaped condylar head was delivered (Figure 5). The oral cavity was then entered, and the mandible positioned relative to the maxilla so as to relate the mandibular teeth in optimum occlusal relationship to the maxillary teeth. This

auricle. The dissection was then carried medially and anteriorly, using the cartilaginous tragus of the ear as a guide. One of the operating hazards in this region is the presence of the facial nerve. The approach that we employ, and which is here described, is so designed that the dissection can be maintained posterior to the main trunk of the nerve. Then all elevation and retraction is done in a forward and upward manner. We thereby avoid any injury to the various branches of the facial nerve. The zygomatic arch was identified by finger palpation, and the head of the condyle located by gently moving the mandible. An incision was then made through the temporomandibular joint capsule, exposing the head of the condyle. With a No. 703 fissure bur the condylar neck was transected just below the head of the condyle, and the attachment of the lateral pterygoid muscle was incised; the condylar neck was then removed. The remaining edge of the condylar neck was smoothed, and the



FIGURE 6 Postoperative full-face photograph.



relationship was maintained by ligating the mandibular Risdon Arch wire to the maxillary Risdon Arch wire in three places, with No. 26 gauge stainless steel wire. The maxillary and mandibular Risdon arches were applied the day before the operation. They were also fashioned from No. 26 gauge stainless steel wire. The incision sites were wiped with tincture of benzoin and covered with a gauze dressing and elastic adhesive bandage. A tensor bandage was then applied around the head in Barton bandage fashion. The patient was removed to the recovery room, responding and in good condition.

*Postoperative Course.* — The patient progressed well postoperatively, showing daily improvement. Half of the sutures were removed on the third postoperative day and the remaining sutures on the fifth day. On the sixth postoperative day the intermaxillary wires were tightened and the patient was discharged from hospital.

The patient was seen once a week after discharge from hospital. Adequate immobilization of the jaws was ensured through careful observation and by maintenance and tightening of the Risdon Arches and intermaxillary wires.

The intermaxillary wires were removed four weeks postoperatively and three days later the Risdon Arches were removed. Occlusal correction was carried out once a week, as indicated, for three weeks. The re-

sult has been most gratifying (Figure 6). The patient has a good functioning dental apparatus and his deformity has been corrected.

## CONCLUSION

A case of marked jaw deformity, due to extensive hypertrophy of the right mandibular condyle, has been reported. The patient presented with a severe, malocclusion associated with prognathism and a lateral cross bite. An excellent result was obtained by doing bilateral condylectomies and then immobilizing the jaws in the optimum position for a period of four weeks. This also required some judicious reduction of interfering cusps both pre- and postoperatively.

The surgical correction of jaw deformities is one of the most challenging and intriguing aspects of oral surgery. The oral surgeon, with his dental background, is best equipped to deal with these conditions, being ever mindful that treatment of the functional deficiencies is equally as important as the aesthetic improvement.

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## abstracts

### DENTAL FILLINGS OF POLYCARBONATE

*Sven Jarby and Elsebeth Andersen.*  
*Odont. Tskr. 70:247, June 30, 1962.*

Previous investigation into the use of two thermoplasticized synthetic resins (polystyrene and polyamide) as dental

filling materials showed that the former did not maintain marginal accuracy to the extent desirable, whereas the latter discoloured in the course of time. The use of polyesters of carbonic acid (polycarbonate) as filling materials is here described.

The polycarbonates have many outstanding properties. Their stability in water and with dilute organic and mineral

acids is a characteristic feature. Their low water absorption together with high heat distortion point minimizes dimensional change. The polycarbonates are soluble in chlorinated hydrocarbons (e.g. methylene chloride) and are attacked by a series of organic solvents. They are slowly decomposed by strong alkalies and amines and are insoluble in aliphatic hydrocarbons. The impact strength of the polycarbonates is high and their toughness is maintained at temperatures below  $-73^{\circ}$  Centigrade ( $-100^{\circ}$  Fahrenheit). They have a broad plastic range and high melt viscosity and can withstand heating up to  $300^{\circ}$  Centigrade ( $572^{\circ}$  Fahrenheit) without degradation. Short heating to temperatures exceeding  $315^{\circ}$  Centigrade ( $600^{\circ}$  Fahrenheit) is not harmful. Overheating causes a darkening in colour and a reduction of toughness.

The flow properties of polycarbonates resemble those of acrylic resin but require higher temperatures. Polycarbonates can be injection moulded or extruded in conventional equipment.

The polycarbonates are usually delivered in the form of pellets. When exposed to the atmosphere, the material absorbs moisture and must thus be carefully dried before it is moulded, to obtain good quality finished parts.

Good solvents are methylene chloride, dioxane, and mixtures of chlorinated hydrocarbons. The authors used a solution of polycarbonate in chloroform (approximately 10 Gm. polycarbonate dissolved in 100 cc. of chloroform) as an adhesive cavity lining medium, in order to secure the retention of the fillings.

A total of 23 cavities were filled in eight female patients aged 20 to 53 years who attended the Royal Dental College of Copenhagen, Department of Restorative Dentistry. A specially designed syringe apparatus was used for cavity filling. The apparatus had the form of a syringe, with an electrically heated plastification chamber and a water-cooled jacket. As the method is only applicable for filling cavities in the visible area, cavities in incisors and cuspids were used for the ex-

periment. Distinct undercuts were made in order to secure retention of the fillings. The adhesive solution was applied to the cavity floor with fine wire loops to further improve the retention of the fillings. Deep cavities in teeth with vital pulps were routinely lined with an oxyphosphate cement.

The polycarbonate material was procured in stick form, having been extruded by the manufacturer to a cylinder with a diameter of slightly less than 2mm., and length of 35mm., to fit the heating chamber of the plastification syringe. The material was obtained in one colour only (light yellowish) which, however, proved to match the shade of most of the teeth filled.

The observation times varied from 79 to 185 days, with an average of 125 days. Eighteen of the 23 fillings inserted were checked at the expiration of this period. All except one of these fillings were satisfactory. No discoloration, either of filling material or of margins could be observed. The marginal accuracy was excellent and so was the constancy of surface. All vital pulps involved in the experiments were tested at the end of the observation time. They all reacted within normal ranges. No other symptoms arose.

One filling was unsatisfactory. This proximal filling was extensive, involving the major part of the lingual surface of the maxillary right central incisor. The filling had fractured; the parts were still in situ in the cavity, but were loose. The filling was not discoloured and the constancy of surface was maintained.

#### REACTION OF THE HUMAN DENTAL PULP TO TEMPORARY FILLING MATERIALS

*R. Dubner, and H. R. Stanley. Oral Surg., Oral Med. & Oral Path. 15:1009, August 1962.*

The authors investigated the comparative response of the human dental pulp to cavity preparations followed by the in-

section of temporary filling material. Typical Class 5 cavity preparations were cut on the labial surfaces in the gingival region of 86 non-carious vital teeth to be extracted for periodontal and prosthetic reasons. The average ages of the patients in the different categories varied from 28.9 years to 31.7 years. An inverted cone No. 35 carbide bur in an air-turbine handpiece running at 300,000 r.p.m. with a continuous air-water spray was used for all preparations. The preparations were carefully dried with cotton and kept free of saliva and the appropriate material was placed according to an accepted technique. The materials used were zinc oxide and eugenol, zinc phosphate cement, base plate gutta-percha, base plate gutta-percha with eucalyptus oil, temporary stopping gutta-percha, and temporary stopping gutta-percha with eucalyptus oil. The eucalyptus oil was carefully applied to the cavity walls and also used to help soften the gutta-percha. All teeth were extracted under general anaesthesia.

Microscopic comparisons were made among the various categories, with the zinc oxide and eugenol categories used as a base-line. The base plate gutta-percha category produced the greatest number of responses, with leucocytes predominating in 50 per cent of the lesions as compared to only 6.3 per cent of the lesions in the zinc oxide and eugenol categories. When eucalyptus oil was used with the gutta-percha, a definite decrease in response was noted. Since heat and pressure in placement of the material are minimized by the use of this oil, it would appear that these factors are important in causing the pulpal irritation.

The pulpal response with zinc phosphate cement was similar to that seen under cavities filled with temporary stopping gutta-percha. The reaction was not so severe as previously reported by other investigators, but it was still much greater than in the base-line zinc oxide and eugenol category.

In none of the specimens examined

were lesions found indicative of a poor prognosis. However, from the standpoint of prevention of pulpal injury, zinc oxide and eugenol remains the temporary filling material of choice.

#### A NEW APPROACH TO THE TOPICAL APPLICATION OF FLUORIDE FOR THE REDUCTION OF DENTAL CARIES IN CHILDREN: RESULTS AT THE END OF FIVE YEARS

C. W. Gish, J. C. Muhler and C. L. Howell. *J. Den. Children* 29:65, 2 Quar. 1962.

Previous reports by these investigators have presented the clinical results at the end of each of the first four years of the study. Each of these individual yearly summaries have shown that a single application of an 8 per cent aqueous solution of stannous fluoride applied at yearly intervals was significantly more effective as an anticariogenic agent when used for the partial reduction of dental caries in children than a series of four applications of 2 per cent sodium fluoride applied once each three years. In the present article, the authors report the data at the end of the fifth year and summarize the entire five-year study.

In essence, the study involves the comparison of dental caries incidence of two groups of children, one of which received a single application of an 8 per cent solution of stannous fluoride once a year, and the other group of children receiving a series of four applications of 2 per cent solution of sodium fluoride each three years. No untreated control was included, since the purpose of the study was to compare the new technique using stannous fluoride with the technique using sodium fluoride. Dental caries was evaluated by clinical examinations without the use of radiographs. Group 1 was the first group of children in the study. Group 2 was comprised of the second addition to this study, being the addition of new



children one year after the beginning of group 1. Group 3 was the third group started two years after group 1, and group 4, the fourth group, started three years after group 1. The number of males and females were essentially equal in each of the groups and practically all subjects when started were seven years old.

The cumulative data show a superiority for the children receiving stannous fluoride of 38, 32, 31, 28, and 35 per cent, respectively, through year 1 to 5 in terms of the DMF surface index. When only the newly erupting teeth were compared in the two groups there was a superiority of 35 per cent for the stannous fluoride treated children. When the data were evaluated by the DMF tooth index the percentage reductions were 34, 29, 30, 26, and 30 per cent, respectively, at year 1 through 5. When all of the individual groups were combined in a collective manner for yearly increments, the stannous fluoride treated groups showed approximately a 35 per cent greater reduction over the sodium fluoride treated children. Such data as these strongly suggest the anticariogenic effectiveness of the single application technique using stannous fluoride as well as to demonstrate that there is no loss of effectiveness as a function of a five-year period under the re-application schedule as described in this study.

#### EFFECTS OF NATURALLY FLUORIDATED WATER ON DENTAL CARIES IN ADULTS

*H. R. Englander and D. A. Wallace.  
Pub. Health Rep. 77:887, 1962.*

Dental caries experience, estimated by clinical means, for 896 white, continuous residents of Aurora, Illinois, and 935 similar natives of Rockford, Illinois, aged 18-59 years, was significantly less for Aurorans, who had consumed domestic water containing 1.2 ppm of naturally occurring

fluoride for an average total of 32.6 years. The Rockford subjects had consumed fluoride-deficient water for an average total of 32.0 years.

The average age was 33.6 years for Aurorans and 33.1 for natives of Rockford. None of the subjects was far away from his respective city water for a total of more than five years after 18 years of age. Persons in both cities were distributed similarly according to sex, socioeconomic status, education, dietary practices, and quality of dental care.

Subjects from Aurora had an approximate average of 10 DMF teeth and 22 DMF tooth surfaces, while their Rockford counterparts had 17 DMF teeth and 43 DMF surfaces. Thus, the dental caries experience of Aurorans was roughly 40 to 50 per cent less when evaluated by teeth and surfaces. These differences might have been greater if a random sample had been examined. Persons with fewer than ten teeth were excluded from examination, and as a result, many more persons were eliminated in Rockford than in Aurora. About seven times as many edentulous persons were noted in Rockford as in Aurora. A quick estimate of the correction for this factor made little change in the magnitude of the difference in DMF teeth between the cities. Nonetheless, this was a factor that is difficult to estimate accurately for each age group.

Although approximately 70 per cent of all DMF surfaces were filled for persons in each city, the Rockford subjects had an average of approximately 2.3 times as many unfilled carious lesions. Decay was more likely to be located in pits and fissures in the Aurorans. The maxillary anterior teeth were free from caries attack in a significantly greater percentage of the subjects in Aurora.

This study provides additional evidence that the lower dental caries experience of children who consume water containing approximately 1 ppm of fluoride almost continuously from birth persists during adult life.

# FLUORIDE-CARBONATE RELATIONSHIP IN DENTAL ENAMEL

G. Nikiforuk, I. M. McLeod, R. C. Burgess, R. M. Grainger and H. K. Brown. *J. D. Res.* 41:1477, 1962.

The work of several investigators has indicated that when there is an increase in fluoride intake, a parallel decrease in carbonate concentration occurs in bone tissue. This finding indicated to the authors the possibility of a reciprocal relation between the concentration of fluoride and carbonate in dental enamel, and also suggested that the mechanism of action of fluoride in reducing caries may involve the reduction of solubilizing anions, such as carbonates and citrates.

The usefulness of this hypothesis is apparent when one considers the inadequacy of the present theory to explain the mechanism by which fluorides reduce enamel solubility. There is substantial evidence that during mineralization the fluoride ion readily substitutes for the hydroxyl group in the apatite crystal-forming fluoroapatites and that the effect of fluoroapatite is to reduce solubility of the mineralized tissue. However, fluoride analysis of dental enamel ob-

tained from areas containing 1.0 ppm of fluoride in the water supply accounts for only one fluoride out of every three hundred hydroxyl groups in enamel apatite. It is improbable that the observed reduction of enamel solubility by fluoride is related to such a limited substitution of hydroxyl group.

The carbonate (per cent  $\text{CO}_3$ ) and fluoride (ppm) values obtained from an analysis of tooth enamel samples from Stratford, Ontario (1.6 ppm of fluoride ion in the water supply), and from Toronto, Ontario (0.1 ppm of fluoride ion), are summarized in Table 1.

This study tentatively supports the hypothesis that a significant reciprocal relationship exists between the average concentration of fluorides and carbonates in deciduous tooth enamel. However, the observed relation is not a simple substitution. Further, the study suggests that the mechanism by which fluorides reduce dental caries is more subtle than was previously noted, and it involves not only formation of fluoroapatite but also reduction in the carbonate component and possibly citrates. The net result of fluoride incorporation in enamel is a reduction in solubility and an improvement in crystallinity; the latter includes factors of size and crystal perfection.

TABLE 1 Comparison of carbonate and fluoride values obtained from an analysis of enamel samples from Stratford and Toronto, Ontario.

| Sample*          | Stratford (1.6 ppm $\text{F}^-$ in water) |                    | Toronto (0.1 ppm $\text{F}^-$ in water) |                    |
|------------------|-------------------------------------------|--------------------|-----------------------------------------|--------------------|
|                  | Per cent $\text{CO}_3$                    | $\text{F}^-$ (ppm) | Per cent $\text{CO}_3$                  | $\text{F}^-$ (ppm) |
| 1                | 3.36                                      | 138.7              | 3.61                                    | 40.0               |
| 2                | 3.49                                      | 100.7              | 3.78                                    | 64.4               |
| 3                | 3.45                                      | 161.7              | 3.72                                    | 40.8               |
| 4                | 3.41                                      |                    |                                         |                    |
| Mean† $\pm$ S.E. | 3.43 $\pm$ 0.06                           | 133.7 $\pm$ 19.6   | 3.70 $\pm$ 0.05                         | 48.4 $\pm$ 8.7     |

\*Each sample consists of purified enamel pooled from about twenty deciduous teeth.

††-Tests indicate significant differences in the mean carbonate and fluoride values between Stratford and Toronto ( $p < 0.01$ ).

# CARIES IN DECIDUOUS TEETH IN RELATION TO MATERNAL INGESTION OF FLUORIDE

J. P. Carlos, A. M. Gippelsohn and  
W. Haddon, Jr. *Pub. Health Rep.*  
77:658, 1962.

The authors investigated the effects of maternal ingestion of fluoride during pregnancy on the occurrence of caries in the deciduous teeth of offspring. This report provides such information for 178 children who were born in utero before and after the beginning of water fluoridation in Newburgh, New York.

Three cohorts of Newburgh children, each examined at six years of age, were studied. Cohort A consisted of 52 children born in February, March, or April 1945, just before fluoridation of the water supply began on May 2, 1945. These children served as a control group. Cohorts B and C, consisting of 52 and 74 children born in the same month 1 and 2 years later, presumably were exposed to water containing 1-1.2 ppm sodium fluoride from birth, as were their mothers throughout gestation. Only children born in Newburgh were included, with the exception of 9 in cohort A who were born in nearby towns, none of which had fluoridated water supplies. Data on caries prevalence in their deciduous teeth was gathered for the three cohorts in 1951-53 during an intensive study of the effects of water fluoridation. All examinations were made by the same person. The cohorts did not differ significantly with respect to sex, race, or the proportion of children from various school districts.

The average number of decayed or filled teeth and tooth surfaces at age six was very similar in all three cohorts. The results demonstrated no significant association between the occurrence of dental caries in their deciduous teeth and the ingestion of fluoridated water by their mothers during pregnancy.

Comparisons made between 6-year-old

children born during the three months preceding fluoridation of the water supply in Newburgh, New York, and those born during the same month 1 and 2 years later, showed little difference in the average number of decayed or filled teeth or tooth surfaces, in the percentage of children entirely free from caries, or in those free from caries in specific types of teeth.

## MECHANICAL TOOTHBRUSHES

Myron Poplove. *Dental Health Newsletter* (Canada Department of National Health and Welfare). p. 7, Winter 1962-63.

According to some reports mechanical toothbrushes are showing improvement over conventional toothbrushes for use in removing plaque and food debris from the teeth, in reducing the formation of calculus and in the field of periodontology. For the patient with gingivitis, the mechanical toothbrush is more effective and simpler to use. It is more gentle to the tissues and causes less injury to the gingiva.

In the case of handicapped children, their mothers are able to use the mechanical toothbrush with good results. From this it would seem that its use among hospital patients, convalescents and invalids, whether used by themselves or their attendants, would result in the saving of time for the dental hygienist, nurse or attendant as well as better oral hygiene.

## CHANGE OF ADDRESS

Subscribers to the *Journal of the Canadian Dental Association* should notify the Managing Director, 234 St. George Street, Toronto 5, Ontario, of their change of address before the 20th of the month, to become effective the following month.



## **When friends get together**

On the 6th and 7th of last month there occurred another of those events which are so characteristic of the two nations that share most of the North American land mass. On those two days executive officers and staff members of the Canadian Dental Association met with their counterpart of the American Dental Association in Chicago to consider problems of mutual concern to the dental profession and public of Canada and the United States.

Our two nations share many common ideals and aspirations. Yet each country has its own distinct institutions, fashioned by different social, cultural and political traditions. That is why it is not always easy for the dentists of one country to understand the reasons for action taken by the profession in the neighbouring country. Meetings of this kind provide the necessary medium for the free exchange of information, and an atmosphere for frank discussion which cannot be duplicated in any other way.

Three years have elapsed since an earlier meeting of this kind was held in

Toronto. Much has happened during the intervening period to make the Chicago conference desirable this year. Paraphrasing the opening remarks of President James Zimmermann of the Canadian Dental Association, "Canada has become a national laboratory of health insurance. The results of our experience will have an impact on the future of health services on the entire North American continent."

These joint national meetings provide an opportunity to reassess problems confronting the profession in each country and to explore methods proposed for their solution. The Chicago meeting reinforces the tradition of friendly co-operation and mutual esteem which characterizes relations between the two professional groups on either side of the international border. As L. W. Morrey, editor-emeritus of the American Dental Association, once stated so aptly, "Let there be more of a comparable character, held at fairly frequent intervals and devoted to raising the level of dental health and to improving methods of rendering the highest quality of dental service."

## **Cry wolf too often**

A recent comment in another Canadian dental publication takes issue with the Canadian Dental Association over the

proposition that "properly qualified and recognized dental auxiliaries could be trained to render a broader scope of serv-

ice than that presently recommended . . . under the direct supervision of a qualified dentist."

The questions raised here are these: (1) "Should" this — not "could" this — be done? (2) Who can guarantee "supervision" and "control?" (3) What happens if the "control" fails to work?

Taken by themselves, these are not unreasonable questions. But unfortunately they form part of a writing which strongly implies that by permitting adoption in 1960 of the foregoing policy, elected officers of dental organizations disregarded the wishes of a majority of their constituents. This seems rather far-fetched. It is equally hard to believe that a policy of the national association with which the majority of dentists disagree could have survived for so long.

The first point to be made is that the profession must distinguish the fundamental issues from all subsidiary considerations. With or without our consent, Canadians demand greater availability of dental service. Economical and effective provision of the required services dictates, in part, an expanded role for dental auxiliaries. The profession has the duty of guiding this development. Therefore the "could" versus "should" is not the issue at all. The real issue is whether or not the profession will accept its responsibility.

Second, it is fatuous to demand iron-clad guarantees against potential individual abuses of practice privileges. This applies to dentists just as much as to dental auxiliaries, present and future. No practitioner can guarantee the ultimate success of his treatments; but he takes

measures which, in his judgement, are likely to confer the greatest benefit. Similarly, no one pretends that the proposals for dental auxiliaries are devoid of risk. But why should this justify a negative attitude?

The third point concerns the eventuality of a complete failure of "supervision" and "control." In this connection, it is worth remembering that North American dental hygienists have a long and honoured tradition of rendering invaluable services under the supervision and control of dentists. Nowhere is there any record of abuse of practice privileges on the part of these auxiliaries. Then why should any expansion of authorized duties automatically have any different effect?

Those who serve the profession—elected officers, and council and committee members—devote many long hours and much arduous effort to the formulation of policies that are in the public interest. The proposals concerning dental auxiliaries were conceived in this spirit and they were adopted after full deliberation on all aspects of the matter. That these proposals may not be to everyone's liking is quite understandable. But to suggest that they command minority support is an unwarranted inference.

Intemperate outbursts that serve to magnify unwarranted fears will not help the profession to meet the demands of society. Assumptions and assertions that impugn the actions of elected officers of dental organizations are particularly objectionable. They are an affront to the individuals concerned and an insult to the intelligence of the dentists who elect them.

*Dental Economics News Letter* • News of the latest developments in dental and health economics in Canada and abroad appears in the *Dental Economics News Letter* published by the Bureau of Economic Research of the Canadian Dental Association. The News Letter also contains direct quotations from articles appearing in newspapers and magazines. These portray the thinking in this field outside the profession. Association members who wish to receive the News Letter should make application to the Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

## CDA-ADA governing bodies meet in Chicago

The Executive Council of the Canadian Dental Association and the Board of Trustees of the American Dental Association met on September 6-7 for the second time in the history of the two associations. The meeting was held in the American Hospital Association Building in Chicago. The first joint meeting of the two organizations was held in Toronto in May 1960.

Mutual problems considered by the two executive groups included trends toward nationalization of health services in both countries, use of dental auxiliaries, fluoridation, dental service plans, retirement-savings plans for dentists, licensure of dental laboratory technicians, accreditation of dental laboratories, specialization, legislative programs and dental education.



Conferring at the recent joint meeting of the executive boards of the Canadian and American Dental Associations in Chicago are (l. to r.) Harold Hillenbrand, secretary, American Dental Association; G. D. Timmons, president, American Dental Association; D. W. Gullett, secretary, Canadian Dental Association; and James Zimmerman, president, Canadian Dental Association.

After the call to order by President G. D. Timmons of the American Dental Association and introduction of the representatives of the two associations, American and Canadian spokesmen presented statements on the current problems and respective association policy positions in each country. Briefly but adequately the speakers outlined the relevant constitutional and political background for each topic. Each statement was followed by full and frank discussion by conference participants.

The conference was called for purposes of information only. No official conclusions were drawn and no official decisions or recommendations were made.

Representing the American Dental Association were:

G. D. Timmons, president; J. P. Hollers, president-elect; A. D. Farver, first vice-president; R. W. Openshaw, second vice-president; A. W. Easton, third vice-president; trustees A. E. Kopp, W. A. Garrett, C. S. Kurz, L. L. Lathrop, P. K. Musselman, M. K. Hine, E. J. Justis, H. A. McGuirl, H. M. Willits, J. S. Eilar, E. F. Mimmack, F. A. Pierson and R. K. Trueblood; and F. D. Osterlander, speaker of the House of Delegates.

Also Harold Hillenbrand, secretary, P. H. Jeserich, treasurer; L. C. Hendershot, editor, *The Journal of the American Dental Association*; L. W. Morrey, editor-emeritus; assistant secretaries C. G. Watson, B. J. Conway, J. R. Doty, J. P. Noone and C. L. Sebelius; and staff members W. G. Ball, John Coady, P. C. Goulding, H. C. Lassiter, D. B. Moen, D. H.



Presiding on the first day of the conference was president G. D. Timmons of the American Dental Association (standing). Others seated at the head table (l. to r.) are Harold Hillenbrand, secretary, American Dental Association; James Zimmerman, president, Canadian Dental Association; D. W. Gullett, secretary, Canadian Dental Association; and K. L. Croft, deputy secretary, Canadian Dental Association.





Canadian delegates seated at the near table are (l. to r.) M. V. J. Keenan, past president; G. M. Dewis, treasurer; H. R. MacLean, chairman, Auxiliary Services Committee; A. R. S. Gray, chairman, Council on Public Health; and (right foreground) M. A. Rogers, chairman, Specialists and Specialization Committee. Seated at the left rear is H. W. Reid, adviser, Council on Education.



Seated at the near table are (l. to r.) J.-P. Lussier, chairman, Council on Education; J. P. Hollers, president-elect, American Dental Association; Rémy Langlois, president-elect, Canadian Dental Association; and J. P. Coupland, member, Executive Council.

Rowcliffe, Harvey Sarnar, K. E. Wessels and J. E. Zur.

Representing the Canadian Dental Association were:

James Zimmerman, president; Rémy Langlois, president-elect; G. M. Dewis, treasurer; and members of the Executive Council J. P. Coupland, P. S. Christie, M. V. J. Keenan, W. P. Munsie and W. J. Riley.

Also H. W. Reid, adviser, Council on Education; P. G. Anderson, pension-insurance

trustee; H. R. MacLean, chairman, Auxiliary Services Committee; A. R. S. Gray, chairman, Council on Public Health; M. A. Rogers, chairman Specialists and Specialization Committee; J.-P. Lussier, chairman, Council on Education; W. G. McIntosh, chairman, Dental Services Committee; D. W. Gullett, association secretary; K. L. Croft, deputy secretary; Mrs. B. I. Brown, director, Bureau of Economic Research; and F. H. Compton, editor, *Journal of the Canadian Dental Association*.



Canadian delegates seen here are (l. to r.) Mrs. B. Isabel Brown, director, Bureau of Economic Research; W. G. McIntosh, chairman, Dental Services Committee; W. P. Munsie, member, Executive Council; and M. A. Rogers, chairman, Specialists and Specialization Committee.

Also present as observers were: Miss Margaret Swanson, executive secretary, American Dental Hygienists' Association, and R. H. Sullens, secretary, American Association of Dental Schools.

### L. J. D. FASKEN PASSES

An honorary member of the Canadian Dental Association since 1949, L. J. D. Fasken, 83, died August 11 at Dunnville, Ontario. After graduating from Toronto, Dr. Fasken went to Regina in 1905 and became first registrar-secretary of the College of Dental Surgeons of Saskatchewan. He was later president of the Western Canada Dental Society. In recent years Dr. Fasken had lived in Dunnville, the home of his daughter. Burial was at Elora, Ont.

### "DENTAL EMERGENCIES" FORM SUBJECT OF WAR MEMORIAL ESSAY COMPETITION

"Management of dental emergencies" is to be the title for the 1964-65 Canadian Dental Association War Memorial Award essay competition. The title was chosen by the War Memorial Awards Committee and confirmed by the Executive Council. Prize-winning essays are published in the *Journal of the Canadian Dental Association*. First and second prizes are \$200 and \$100 respectively.

## Canada and the Provinces

### HIGH SCHOOL TO TEACH DENTAL ASSISTING

The first formal course for dental assistants at secondary school level started in September at West Hill Collegiate, Scarborough, a Toronto suburb. Established within the four-year "science-technology-trades" secondary school program of the Ontario Department of Education, the new course combines practical training with general courses in grades 11 and 12. Mrs. Mai Pohlak, a Toronto dental hygienist who is obtaining a vocational interim teaching certificate, has been appointed by Scarborough Board of Education to take charge of the course. Consultant service is provided by the Faculty of Dentistry, University of Toronto. The project is supported by a grant of \$36,000 from the Ontario Department of Education.

### FORMER DENTIST NAMED TO CANADA COUNCIL

Mrs. Miriam Dorrance of Vancouver has been named to the Canada Council, Prime Minister L. B. Pearson announced earlier this summer. Mrs. Dorrance, who gave up her career as a dentist many years ago to raise her family, said (in a Vancouver newspaper story): "I wouldn't give up my profession today—women don't do that any more." Before her marriage, Mrs. Dorrance was Alberta's only practising woman dentist from 1921 to 1924. Formerly Miriam Barber, she graduated in dentistry at Toronto in 1921.

### SASKATCHEWAN STUDENT BURSARY PROGRAM REVAMPED

Revisions to the bursary program for dental students from Saskatchewan were recently disclosed by that province's minister of health. The bursaries are now available in units of \$600 each for dental students in each of the four professional years. A stipulation is that each student must agree to practise in Saskatchewan for at least six months for each "unit" he receives. The provincial health department has informed registrars of Canadian dental schools and all Saskatchewan students now registered in Canadian dental schools concerning these bursaries.

### U.B.C. PRESIDENT HONOURED

J. B. Macdonald, president of the University of British Columbia and author of a recent report on higher education in that province, was recently named "British Columbian of the year" by the Newsmen's Club of B.C.

The honour is awarded on the result of votes by editors of daily and weekly newspapers and radio and television news editors.

Dr. Macdonald is the twelfth recipient. The first winner, in 1952, was his predecessor at the University of British Columbia, Norman MacKenzie.

## International Items

### IRISH COURT REJECTS FLUORIDATION PROTEST

A 34-year-old Dublin housewife faced a potential court bill of about \$700,000 when the Irish High Court upheld the constitutionality

of a national law requiring fluoridation of all community water supplies and rejected her protest against the government's decision to implement the measure. Mrs. Gladys Ryan on July 31 lost a 67-day court battle which involved testimony from 30 experts in Europe, the United States, India, Japan and South Africa.

The case began in January when Mrs. Ryan brought suit against the Irish government to stop the implementation of a 1960 act of the Irish parliament which directed all local authorities to fluoridate. Mrs. Ryan's suit claimed that parliament had exceeded its constitutional powers in requiring such fluoridation.

After six days of hearings on the constitutional issue Mr. Justice Kenny ruled that parliament "might" have gone beyond its constitutional power in enacting the fluoridation legislation. This decision then made necessary a hearing of the scientific evidence of fluoridation and also opened the way for a statement of position by antifluoridationists. This test of the scientific validity of fluoridation as a public health measure—probably the most comprehensive legal evaluation ever made—occupied the remainder of the trial.

In his final ruling the judge said that the Health (Fluoridation of Water Supplies) Act 1960 does not infringe on any of the personal, family, or educational rights guaranteed by the Irish constitution and that fluoridation would not cause harm to the public health.

The justice criticized some of the plaintiff's witnesses on the basis that there was throughout their evidence an air of passionate conviction and that they were determined at all costs to make a case against fluoridation and not to consider any of its advantages. In the court's opinion, fluoridation would not cause damage or injury to anyone and violates no "civil" rights.

### BRITAIN'S NATIONAL HEALTH SERVICE COSTLY

The annual report of the British Ministry of Health for 1962 reveals that the National Health Service, now in its fifteenth year, cost \$2.6 billion last year. The total sum for services in 1963 is expected to reach nearly \$2.7 billion, for which every resident pays about \$50 annually. The balance is derived from employers' contributions and general revenues.

### CAULK AND DENTSPLY MERGE

Two well-known American dental supply firms, which also supply the Canadian mar-

ket, have recently joined forces. The merger involves The Dentists Supply Company of New York, located in York, Pennsylvania, and The L. D. Caulk Company of Milford, Delaware. Following the merger, the name and operations of The L. D. Caulk Company will be continued as the Caulk Division of The Dentists Supply Company of New York, officials of the new company announced.

### ENDODONTIC CONGRESS SLATED FOR MEXICO CITY

Canadian dentists are invited to attend the founding congress of the Ibero-American Federation of Endodontists at the dental school of the National University of Mexico, Mexico City, March 1-7, 1964. Featured on the program are scientific papers and committee discussions on terminology, prevention, armamentarium, treatment of pulpitis, root canal therapy in deciduous teeth, discoloration, teaching and specialization, research, bibliography, and social service. Establishment of local, national, regional and world-wide endodontic organizations will form an important element of the discussions. Official congress languages are Spanish, Portuguese, French and English.

Immediately following the congress a one-week refresher course in endodontics will be conducted by Yury Kuttler, congress president.

Further information may be obtained from F. Romero Castany, secretary, Executive Committee of the Congress, Calle Hamburgo 250, México 6, D.F., Mexico.

### TRINIDAD-TOBAGO DENTISTS SCHEDULE THIRD CARIBBEAN MEET

The Dental Association of Trinidad and Tobago will hold its Third Caribbean Dental Convention, February 1-8, 1964, in Port-of-Spain, Trinidad. Convention subjects will include prosthodontics, paedodontics, radiology, oral surgery, oral pathology and oral medicine. Further information may be obtained from A. V. Awon, secretary, 43-45 Frederick Street, Port-of-Spain, Trinidad, West Indies.

### DENTAL ASSOCIATION FORMED IN THE BAHAMAS

The Bahama Islands Dental Association has recently been organized in Nassau, Bahamas. H. E. Leyland, a former Toronto dentist, is



one of the founders of the new group. Cyril Vanderpool has been designated secretary-treasurer of the organization.

The purpose of the new association is the advancement of dentistry and fellowship for its members. Meetings are held in the medical library of the Princess Margaret Hospital, Nassau, on the first Tuesday of each month. A course in practice management will also be given by L. J. Marchand of Gainesville, Florida, on November 30. Visiting Canadian dentists are welcome at all meetings.

Further information may be obtained from C. E. Crandell, University of North Carolina School of Dentistry, Chapel Hill, North Carolina, U.S.A.

## Dental Organizations

### CANADIAN TO ADDRESS GREATER NEW YORK DENTAL MEETING

C. H. Moses, prominent Toronto prosthodontist, will appear with other American and foreign speakers at the 39th Annual Greater New York Dental Meeting, December 2-6. This meeting, sponsored by the First and Second District Dental Societies of New York, is one of the largest of its kind in the world. Venue of the meeting is the Hotel Statler-Hilton. Further information may be obtained from Mrs. Mabel Purdy, Executive Secretary, Room 106A, Statler-Hilton Hotel, New York City.

### FLUORIDATION APPROVED FOR DETROIT

A circuit court judge has approved Detroit's fluoridation ordinance. He declared the ordinance, adopted by common council in November 1962, to be valid and constitutional in all respects. A suit challenging the ordinance was dismissed. The suit was filed by Detroit representatives of the National Health Federation. The city water system supplies the majority of Detroit suburbs.

### FALL MEETING IN NEBRASKA ON ORAL RADIOLOGY RESEARCH

The First International Research Conference in Oral Roentgenology will be held November 21-23, 1963, at the Nebraska Center for Continuing Education in Lincoln, Nebraska.

Representatives from dental and medical schools, research institutes, and industries are expected to attend the conference which is sponsored by the American Academy of Oral Roentgenology.

Papers will be presented on research in diagnosis, x-ray equipment, radiation protection, isotopes and nuclear particles, and radiobiology. Sources of research support and potentials of radiological research will also be discussed.

### CANADIAN DENTAL HYGIENISTS ORGANIZE

Two Toronto dental hygienists have been named to provisional executive positions in the newly formed Canadian Dental Hygienists' Association. They are Mrs. Mai Pohlak, president, and Mrs. Jill Dossett, president-elect.

Dental hygienists are now trained at four dental schools in Canada, those at Dalhousie, Toronto, Manitoba and Alberta universities. Similar programs are projected at other dental schools.

A principal purpose of the group is to weld dental hygienists all over Canada into a strong national organization dedicated to the interests of individual members and of the vocation of dental hygiene in general. Formation of the new association has the support of the Canadian Dental Association.

### DENTAL DISPLAY AT VANCOUVER EXHIBITION

Preventive dentistry was the theme of an exhibit presented by the British Columbia Dental Association at the Pacific National Exhibition in Vancouver in August. The display, prepared by E. J. Hyde, was complete with dental equipment, mannequins and embryology study models. Fluoridation of a communal water supply was also demonstrated. During the exhibition 40 dentists staffed the booth.

### B.C. COLLEGE LAUNCHES ANTI-GOVERNMENT ACTION

The College of Dental Surgeons of British Columbia last month launched a Supreme Court action against the provincial government claiming that the cabinet made illegal changes in the rules and regulations governing dentists. Some of the proposals dealing with dentists' relations with dental technicians and mechanics were omitted. The

college claims that the government does not have power to change rules approved by the profession, but can only accept or reject them as a whole.

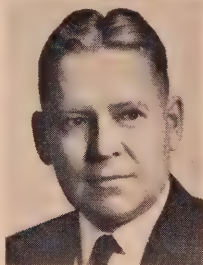
A Vancouver dentist was suspended from practice for four months when a court of enquiry found him guilty of unprofessional conduct. He was charged with co-operating with a dental mechanic by extracting teeth without having satisfied himself that the dentures would be fitted and adjusted by a dentist. The patient suffered distress and discomfort to an unnecessary degree from the ill-fitting dentures made by the dental mechanic.

## Royal Canadian Dental Corps

### COUPLAND AND McCUTCHEON NAMED AS CORPS CONSULTANTS

J. P. Coupland of Ottawa and James McCutcheon, dean of the Faculty of Dentistry, McGill University, Montreal, were recently appointed to the Board of Dental Consultants of the Royal Canadian Dental Corps. Dr. Coupland replaces D. M. Tanner as consultant in oral surgery. Dr. McCutcheon succeeds R. J. Godfrey as consultant in prosthodontics.

Civilian consultants advise the Director-General of Dental Services for the Canadian Forces in the various specialty fields which affect dental services in the Canadian Forces. In addition, they assist in solving specific dental problems and advise on the broader aspects of treatment policy and the training of dental officers and auxiliary tradesmen. Each consultant is appointed for a three-year term.

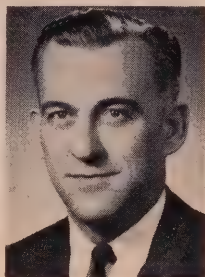


J. P. Coupland

An Ontario-certified specialist in oral surgery and past instructor in dental radiology

for the Royal Canadian Dental Corps, Dr. Coupland has been an active participant at numerous dental meetings in Canada and the United States. He is a member of the American Society of Oral Surgeons, charter member of the Canadian Society of Oral Surgeons, past president of the Eastern Ontario Dental Association, a director of the Royal College of Dental Surgeons of Ontario, and a member of the Executive Council of the Canadian Dental Association.

Dr. McCutcheon graduated from McGill University in 1945 and received his M.S.D.



James McCutcheon

degree in prosthodontics from the University of Michigan in 1948. He was appointed to the McGill Faculty of Dentistry as an associate professor in 1948 and became dean of the faculty in 1956. An active member of various professional societies and committees, Dr. McCutcheon is president-elect of the Canadian Academy of Prosthodontics.

Continuing as dental consultants for a further three-year term are: J. E. Abra of Winnipeg, orthodontics; J. W. Neilson of the University of Manitoba, periodontics; J. D. McLean of Dalhousie University, restorative dentistry; J.-P. Lussier of the Université de Montréal, dental research; H. R. MacLean of the University of Alberta, oral diagnosis and radiology; and D. W. Gullett, secretary, Canadian Dental Association, as consultant in dental ethics.

### UNDERGRADUATES COMPLETE SUMMER TRAINING

Undergraduate officers and officer-cadets terminated their summer training with a passing-out parade on August 8 at Camp Borden, Ontario. The parade was held at the Royal Canadian Dental Corps School where the undergraduates were completing the second and third phases of practical training which they undergo as subsidized dental

students. Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces, took the salute during the march-past.

Brigadier Baird and Col. I. A. L. Millar, Deputy Director General of Dental Services, later attended a mess dinner given in honour of these future dental officers of the R.C.D.C. on their departure to their various universities to resume their academic training.

Awards presented for proficiency in practical phase training this year were: First Phase Honour Cadet, Officer-Cadet M. C. Devine, University of Toronto; Second Phase Honour Cadet, Officer-Cadet Z. Tukums, University of Toronto; Third Phase Honour Cadet, Second Lieutenant M. G. McRae, University of Alberta; Runner-up Third Phase, Second Lieutenant H. Griesbach, University of Toronto; Chief Instructor's Trophy, Second Lieutenant J. R. Robertson, Dalhousie University; Runner-up Chief Instructor's Trophy, Officer-Cadet J. A. Natress, University of Toronto.

## Public Health

### MONTREAL'S DENTAL DIRECTOR PASSES

J. Clarence Bouillon, director of the Division of Dental Services of the Montreal Health Department, died on June 23 (see In Me-

moriam notice in September issue). A pioneer in public health dentistry in the Quebec metropolis, Dr. Bouillon served as clinician with the health department prior to receiving a master's degree in public health from Columbia University, New York, in 1952. Dr. Bouillon was an assistant professor of dental public health at the Université de Montréal. Active in national and provincial dental and public health organizations, Dr. Bouillon laboured for many years in support of fluoridation and other dental health measures.

### MONTREAL NEXT TO FLUORIDATE?

Canada's largest city may be the next to fluoridate if the Executive Committee of Montreal's City Council acts soon on recommendations of city and provincial pro-fluoridation forces.

The city's health department has favoured fluoridation since 1951. Since then a number of pro-fluoridation resolutions have been submitted to council with little or no opposition. The lack of concrete results is attributed to general inactivity of successive city councils and executive committees rather than any lack of official conviction about the benefits of the procedure.

Last June, however, council unanimously passed a resolution instructing the Executive Committee to study and report on a fluoridation program for Montreal. Chairman Lucien Saulnier promised that the matter would be attended to promptly.



Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces, takes the salute at the 1963 Passing-Out Parade of the R.C.D.C. School, Camp Borden, Ontario.



The pro-fluoridation case has been further strengthened by a recent report of Quebec's Health Minister Alphonse Couturier, who said that studies in 16 Quebec communities where water is fluoridated reveal a 60-65 per cent decline in caries prevalence while the number of caries-free children has increased five to six times. Several of these communities—Dorval, Pointe Claire, Ste. Anne de Bellevue, Lachute, St. Lambert and Candiac—are suburbs of Montreal and their satisfactory experiences may help to speed fluoridation in the parent city.

### NEWFOUNDLAND BACKS FLUORIDATION

Fluoridation of community water supplies has been endorsed by the Newfoundland Department of Health, the Health League of Canada recently announced. Health Minister McGrath and his department are recommending fluoridation to all communities in the province.

The town of Gander, with a population of 6,000, began fluoridation in March. It was the first municipality in the province to do so.

### CHILD DENTAL HEALTH IMPROVES IN WINNIPEG

Water fluoridation in the city of Winnipeg has markedly reduced caries incidence in Winnipeg school children according to the Health League of Canada.

C. H. McCormick, director of Winnipeg's dental services, has revealed that a five-year dental health program has brought about a drastic reduction in tooth mortality and caries attack rates. Since 1959 the number of six-year-olds requiring premature tooth extraction has been reduced from 14 per cent to two per cent. In the same period the percentage of children with decayed teeth has been reduced from 75 to 45 per cent. Winnipeg's water supply was fluoridated in 1957.

### TORONTO DENTAL DIRECTOR EXPRESSES GUARDED OPTIMISM

Significant benefits have again been noted in Toronto preschool children exposed to teaching, demonstration, inspection, bitewing radiography and topical fluoride administration by dental hygienists.

In his 1962 annual report of the Division of Dental Services, Toronto Department of Public Health, the city's dental director, H. S. Grey, cites supporting data from 291 five-year-old preschool children who were seen

annually by dental hygienists between the ages of two and five. Improvements for specific dental health indices between first and fourth examinations are as follows: no dental defects, 12.82 to 24.7 per cent; no caries defects, 20.51 to 43.82 per cent; complete caries neglect, 38.46 to 0.43 per cent; permanent and deciduous teeth per child needing restoration, 4.38 to 2.09; caries-free children, 12.82 to 16.85 per cent.

But Dr. Grey also cautions about the continuing high prevalence of dental defects in the city's expanding school population. In a total enrolment of 121,075 elementary and secondary school pupils, examination of 110,471 students last year disclosed 59,850 subjects with dental defects—the great majority relating to dental caries.

Despite these gloomy statistics, Dr. Grey expresses guarded optimism for the future. He welcomes the advent of fluoridation of the city's water supply and calls for greater participation by dental hygienists in the city's dental program. Hampered in recent years by the general shortage of dental hygienists, Dr. Grey foresees improvements resulting from the currently larger numbers of dental hygiene graduates. As a consequence he anticipates further benefits from fluoridation and from an expanded preventive program manned by additional dental hygienists. He also calls for some expansion in the city's presently available dental treatment facilities.

### OPPONENTS SLOW FLUORIDATION PROGRESS

The following editorial appeared August 10 in *The Financial Post* under the heading "This is Progress?"

"For more than a decade, public health authorities in Canada have been campaigning for the fluoridation of water supplies. Doctors and dentists by an overwhelming majority say fluoridation is safe and an effective means of reducing tooth decay.

"But as a recent Canadian Press survey makes plain, large numbers of the Canadian public are still swallowing the nonsense and gobbledygook put forward by the critics of fluoridation.

"Canadian Press discloses that of the 30 Canadian communities which voted in 1962 on the issue, 18 rejected fluoridation and only 12 voted in favour.

"By May of this year only 137 communities were adding fluorides to their water. These municipalities account for only two million Canadians.

"New Brunswick and Prince Edward Island have no fluoridated water system at all. The largest city in Quebec to have fluoridated water is Trois-Rivières with a population of only 50,000. In Ontario, such important cities as Ottawa, Hamilton and London were among the dozen

Ontario communities which last year rejected fluoridation. In British Columbia, 50 fluoridation votes have been held since 1954, but only 10 centres have obtained the 60 per cent majorities needed for adoption.

"It is obvious from this that the small but noisy group rabidly against fluoridation has created much uncertainty in the public mind.

"This is an extraordinary state of affairs. Independent government commissions in Canada, the U. S., Britain, Ireland, New Zealand, Sweden and other countries have endorsed fluoridation. The World Health Organization has recommended its use 'without qualification or caution.'

"Children now being doomed to grow up with a lot of completely unnecessary tooth trouble won't take much comfort out of the fact that there were long, mad battles against other things too—anaesthesia, vaccination, milk pasteurization and chlorination of drinking water."

## TWO N.S. TOWNS FLUORIDATE

Antigonish and Windsor bring the Nova Scotia total to six municipalities with fluoridation. The Windsor system began in May and Antigonish started fluoridating August 2. Almost 180,000 Nova Scotians are served by water systems with fluorides added. The population of Windsor is 3,800; that of Antigonish, 4,600.

## DENTISTS PARTICIPATE AT ONTARIO PUBLIC HEALTH MEETING

W. J. Dunn, registrar-secretary-treasurer of the Royal College of Dental Surgeons of Ontario, and S. A. MacGregor, professor and head of the Department of Paedodontics at the University of Toronto, were participants on the program of the Ontario Public Health Association's fourteenth annual meeting, Toronto, September 30-October 3.

Dr. Dunn was a member of a panel on the Royal Commission on Health Services. His fellow panelists were P. Bruce-Lockhart of the Ontario Medical Association; L. W. Sturgeon, Medical Health Officer for the Welland and District Health Unit; and Rt. Rev. Msgr. J. G. Fullerton, moderator.

Dr. MacGregor addressed one of the general sessions. His subject was: "Need the twentieth century belong to the city?"

## GRIMSRUD RETURNS TO KOOTENAY HEALTH UNITS

H. A. Grimsrud of Trail, British Columbia, recently returned to that city as regional consultant for the Kootenay Health Units after completing postgraduate training in dental public health at the University of Toronto.

## Canadian Dental Schools

### UNIVERSITY OF MANITOBA

*New Staff Appointment:*—Miss Dixie Scoles has been appointed assistant director of the School of Dental Hygiene at the University



Dixie Scoles

of Manitoba. Before coming to Winnipeg Miss Scoles was engaged in private practice in Minneapolis. Miss Scoles was educated in Ohio where she received her Certificate in Dental Hygiene from Ohio State University, and the degree Bachelor of Science (Education in Oral Hygiene). She has been active in the American Dental Hygienists Association, both at state and federal levels. The new School of Dental Hygiene of the University of Manitoba began its first course in September 1963.

## correspondence

*The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.*

### PHOSPHORIC ACID CONTENT OF COLA BEVERAGE

*To the Editor:*

I have just read a pamphlet with copy of an advertisement in the Journal regarding *Diet-Rite Cola*. Despite the removal of the 10 per cent glucose, I believe this drink still contains .5 per cent phosphoric acid and has a pH of 2.7. Is this solution harmless to the teeth or is it just a question of it being less harmful than ordinary cola? Maybe this point would be of interest to other dentists and a reply would be much appreciated.

E. F. Porter, D.D.S.,  
2 East 18th Street,  
Hamilton, Ontario.

*Ed. Note*—This enquiry was referred for comment to the management of Royal Crown Cola Limited, manufacturers of *Diet-Rite Cola*, and to an independent consultant.

*To the Editor:*

Thank you for asking about the *Diet-Rite* phosphoric acid content on behalf of Dr. E. F. Porter in Hamilton. *Diet-Rite* does not contain .5 per cent phosphoric acid—but a much,

much lower per cent—a fraction of this or an amount almost identical to that of any other quality cola soft drink. In this respect it is neither more nor less harmful than ordinary cola beverages. But, there is another aspect: *Diet-Rite* is totally sugar-free. Other colas—even some diet or low-calorie colas—contain sugar.

C. S. Wright, President,  
Royal Crown Cola Limited,  
100 Sunrise Avenue,  
Toronto 16, Ontario.

*To the Editor:*

The two characteristics of carbonated beverages which may involve them in the caries processes are: (a) low pH (2-3) and (b) sugar content (about 10 per cent).

Since in the specific product under discussion (*Diet-Rite Cola*) the sugar content is nil, this factor needs no further elaboration.

The pH of the above product is sufficiently low to decalcify teeth under specific conditions. Both carbonic and phosphoric acids contribute to the low pH. The amount of phosphoric acid in most carbonated beverages is approximately 0.055 per cent (almost 10 times less than the amount noted by Dr. Porter). It is highly improbable that this amount of phosphoric acid would demineralize teeth under average conditions of use of this product. Decalcification would not be a significant problem until abnormal amounts (over 2-3 bottles per day) of the beverage are consumed.

Many dietary items may be cariogenic depending upon the mode of use and quantity consumed. It is preferable to advocate judicious use of a product than to completely restrict its use.

Gordon Nikiforuk, D.D.S., M.Sc.,  
Chairman, Division of Dental Research,  
University of Toronto.



## book reviews

### MODERN TRENDS IN DENTAL SURGERY (1)

G. A. Marrant, ed. London, Butterworths, 1963. (Available from Butterworth & Co. (Canada) Ltd., Toronto) 255 pp. Illus. \$13.50

The aim of this book, the review of the significant advances in all fields of dentistry, has been well realized. The book does not attempt to describe in detail all the latest techniques. The authors concentrate on current trends in the various specialties and branches of dentistry. They discuss the origin and development of these trends and they try to predict developments of the future.

Each section or essay is written by a well-known authority who assesses recent developments in his field and gives a short, clear-cut evaluation. This should clarify the present trends for general practitioners, teachers as well as specialists.

Some conclusions of the writers may not be acceptable to all readers. Nevertheless, the broad scope of the book will more than reward the reader's efforts.

If there is any criticism, it relates to the title. The casual reader, particularly on the North American continent, might presume that this book deals specifically with oral surgery; for the term "Dental Surgery" has a different connotation in British nomenclature where it is more akin to the broader concepts of "dentistry."

This is a small point. Perhaps it could be corrected in later editions.

J. H. Mullett

### ORAL SURGERY

K. H. Thoma. Ed. 4. St. Louis, C. V. Mosby Co., 1963. 1268 p. (2 vols.) Illus. \$44.50

The popularity of this standard reference on oral surgery is proven by the fact that yet another edition has been required. The author has done a very thorough job of revising and adding to the former edition so as to

include the most recent developments in this rapidly expanding field. The publisher has departed from the format of the third edition, which was published in one volume, and has returned to the pattern of the earlier editions, which were published in two volumes. This makes for easier handling and reading, as the weight of the 1,607 pages of the third edition was often an inconvenience to the reader. Although two new sections on bioanatomy and microbiology have been added to the new edition there has been a reduction of 339 in the total number of pages, through condensation and revision. Anatomy is covered in a concise section of 28 pages, streamlined to the anatomy of greatest importance in oral surgery. It is illustrated with the excellent colour plates of Dr. Netter, which, in combination with a text written by an author with such wide experience in oral surgery, makes this section a very valuable addition to the book. The nerve supply to the oral tissues and the face is very clearly and concisely dealt with. The 11-page section on microbiology is treated similarly, with major attention being given to the organisms of primary importance in oral surgery. For the convenience of the reader a complete index to the entire text has been included in both volumes. The index is detailed and meticulous, for although the total number of pages of text has been reduced, the index has been increased from 36 to 38 pages. The author has done an excellent job of revision, rearrangement and re-writing. Volume one contains information on most of the problems that are likely to confront the general practitioner, while volume two deals with major conditions that are more likely to be the concern of the specialist. The division of the text makes it possible to buy either or both volumes in accordance with individual requirements. It has been a monumental task to produce an up-to-the minute work of this magnitude and the author is to be congratulated upon having succeeded in his objective of producing a publication so valuable to the busy practitioner who needs "a ready reference, a technique, or a guide to an unusual oral surgical problem." He has provided a veritable encyclopaedia of oral surgical knowledge in a readily accessible form.

J. H. Johnson

## PRINCIPLES OF BONE REMODELLING

D. H. Enlow. Springfield, Illinois, Charles C. Thomas, 1963. (Available from the Ryerson Press, Toronto) 131 p. Illus. \$7.50

This is a short, readable, well produced account of the processes of growth and remodelling in long bones and in the mandible. It includes much of the recent work of the author in this field.

An unexpected feature of the book is an introductory 20 pages consisting of an historical sketch of changing concepts of bone growth over the centuries. Successive chapters deal with the remodelling process, metaphyseal reshaping and resizing, osseous cortical drift, the canal system in bone, cortical stratification, mandibular remodelling, and a summary on the composite structure of bone. The author takes particular care in describing and illustrating metaphyseal reshaping and resizing. He emphasizes the usually misunderstood concept that bone produced by endosteal (rather than subperiosteal) deposition accounts for much or all of the cortex in the proximal and distal thirds of a long bone.

Chapter 7 relates the basic growth and remodelling processes already described for long bones to the more complex sequence of changes occurring in the production of the adult mandible. This reviewer found the author's "principle of the V" helpful in describing the growth of a long bone. When used to explain the growth of the mandible, however, he found it confusing and perhaps misleading.

This book is of obvious interest to orthodontists, but it also could be read with profit by graduate students and practitioners to review and bring up to date their knowledge of bone growth.

J. E. Anderson

## PRINCIPLES AND PRACTICE OF ORAL RADIOLOGIC INTERPRETATION

H. M. Worth. Chicago, Year Book Medical Publishers, Inc. 1963. 746 p. Illus. \$30.00

Dr. Worth has made another outstanding contribution to the dental literature in general and, more particularly, to the field of oral radiology. A most highly qualified teacher and author, he commands the respect of all his conferees in medicine and dentistry. This reviewer has been privileged to hear Dr. Worth lecture and one is im-

pressed by the breadth of his knowledge in this field.

The text is printed in clear sharp type in double column format per page. With pages of 7½ in. by 10¼ in. size, the double column style contributes to comfortable reading; and, in addition, permits the use, for the most part, of illustrations and accompanying text on the same page. Hence the frustration of text on one page and corresponding illustrations on another page is largely avoided. While the paper has the disadvantage of reflection from the slightly glossy finish, this is of little consequence because it adds to the clarity and detail of the radiographic illustrations which, in themselves, are outstanding in scope and diagnostic quality. There are 662 figures, nearly all of which are multiple, and practically all of these figures are exceptionally fine reproductions of radiographs.

This book of 733 pages is divided into 21 sections, each of which is further subdivided into numerous sub-sections. There is a bibliography at the end of each sub-section. It is very difficult to find any dental or related condition which is not extremely well covered from the standpoint of dental or oral radiology. Dr. Worth has drawn from his outstanding knowledge of this field of dentistry and has also diligently searched for material from other sources to add to the value of his book.

One is very favourably impressed by the thoroughness with which each section is written; the descriptive text is well presented and the detail is concise and informative. In this regard, particular attention is directed to the sub-section on "Cancellous Bone" and the sections on "Infections of the Jaws," "Physical and Chemical Effects on the Jaws and Teeth," "Benign Tumours of the Jaws," and "Malignant Tumours of the Jaws."

Since nomenclature in dentistry, and in radiology in particular, has not been standardized, the author acknowledges the fact that the reader or student may come upon terms which are new to him or are used in a different sense. However, the diligent searcher for knowledge will not be greatly handicapped by this situation.

There is only one minor shortcoming: the use of this book would be facilitated by a more detailed index.

*Principles and Practice of Oral Radiologic Interpretation* is an outstanding book. To the student it should be a source of inspiration; to the practising dentist, an invaluable fund of information; and to the teacher in oral radiology, an excellent reference text and frequently a source of new knowledge and of superior descriptive material in radiology.

H. M. Eaton

## additions to the library

- ARTUSIO, J. F. Clinical anesthesia; halogenated anesthetics. Philadelphia, F. A. Davis Company, 1962. 144 p. \$8.90
- DAVSON, H. and EGGLETON, M. G. Starling and Lovatt Evans principles of human physiology. 13th ed. Philadelphia, Lea & Febiger, 1962, 1579 p. illus. \$17.60
- DENTAL CLINICS OF NORTH AMERICA, July 1963. Symposia on I. Endodontics, II. Oral therapeutics. Philadelphia, Saunders, 1963. 280 p.
- FINERTY, J. G. and COWDRY, E. V. A textbook of histology; functional significance of cells and intercellular substances. 5th ed. Philadelphia, Lea & Febiger, 1960. 573 p. illus. \$12.10
- GREENBERG, S. N. and GREENBERG, J. R. So you want to be a dentist. New York, Harper & Row, 1963. 168 p. \$3.80
- HOLDSWORTH, W. G. Cleft lip and palate. 3rd ed. London, William Heinemann Medical Books, Ltd., 1963. 204 p. illus. \$10.50.
- LYNCH, M. J. and RAPHAEL, S. S. Medicine and the state. Springfield, C. C. Thomas, 1963. 449 p. \$11.60
- MAUREL, le DOCTEUR GERARD, 1887-1960. Services, fonctions et travaux. Abbeville (Somme), Imprimerie F. Paillart, 1963. 46 p.
- MONHEIM, L. M. Emergencies in the dental office. (Practical Dental Monographs, July 1963.) 46 p. illus.
- ROSSIER, P. H., BUHLMANN, A. A. and WIESINGER, K. Respiration: physiologic principles and their clinical applications. St. Louis, Mosby, 1960. 505 p. illus. \$17.00
- SHAFFER, W. G., HINE, M. K. and LEVY, B. M. Oral pathology, 2nd ed. Philadelphia, Saunders, 1963. 768 p. illus. \$17.00
- STAFNE, E. C. Oral roentgenographic diagnosis. 2nd ed. Philadelphia, Saunders, 1963. 429 p. illus. \$16.20
- THOMA, K. H. Oral surgery. 2 vols. 4th ed. St. Louis, Mosby, 1963, 1268 p. illus. \$48.10
- VIRTANEN, I. Free autoplasic bone crafting in mandibular defect fractures. (Suom. Hammaslækt, Toim., Vol. 57, 1961. Suppl. I.) 163 p. illus.
- WITKOP C. J. Genetics and dental health. Proceedings of an International Symposium held at the National Institutes of Health, Bethesda, Maryland, April 4-6, 1961. Sponsored by the Council on Dental Research, A.D.A., Chicago, Ill. Toronto, McGraw-Hill Book, Co., Inc., 1962. 300 p. illus. \$9.25
- WORTH, H. M. Principles and practice of oral radiologic interpretation. Chicago, Year Book Medical Publishers, 1963. 746 p. illus. \$33.00

## in memoriam

FRANK FORMAN BENT—Dr. F. F. Bent of Oxford, Nova Scotia, died on August 4, 1963. He was 81. Dr. Bent was born in River Philip, Nova Scotia, in 1881 and graduated from Philadelphia Dental College (Temple University) in 1905.

MABEL CONNELL—Dr. Mabel Connell of Prince Albert, Saskatchewan, died on August

19, 1963. She was born in Frontenac County, Ontario. Dr. Connell graduated from Queen's University, Kingston, in 1917 and from the Royal College of Dental Surgeons of Ontario in 1923. Dr. Connell first practised in Calgary and later at Govan and Prince Albert, Saskatchewan. For several years she was a member of Saskatchewan's provincial dental examining board.



Some years ago she was appointed to the Board of Broadcast Governors. Dr. Connell is survived by her husband, Dr. Lorne Connell; one daughter, Mrs. Ian Hose of Toronto, Ontario; a son, George, also of Toronto, and six grandchildren.

**FREEMONT WHITFIELD DOAN**—Dr. F. W. Doan of Toronto, Ontario, died on August 20, 1963. He was 64. Dr. Doan was born in Hamilton in 1899 and graduated from the Faculty of Dentistry, University of Toronto, in 1925. He is survived by his wife, Mary; two daughters, Mrs. Edward Clappison and Mrs. Andrew S. Mathers; a brother, E. Melville Doan; and a sister, Mrs. William Potts, all of Toronto.

**LORNE JOHN DALE FASKEN**—Dr. L. J. D. Fasken of Dunnville, Ontario, died on August 11, 1963. He was 83. Dr. Fasken was born in Wellington County, Ontario, in 1879. Following his graduation from the Royal College of Dental Surgeons of Ontario in 1905, he went to Regina. He was elected to the first council of the College of Dental Surgeons of Saskatchewan in 1905 and served as registrar-secretary until his retirement in 1956. He was president of the Western Canada Dental Society from 1948 until 1949. Dr. Fasken was elected a fellow of the American College of Dentists and was an honorary life member of the College of Dental Surgeons of Saskatchewan. He is survived by a son, Norman of Shawinigan, P. Quebec, and a daughter, Mrs. K. Miller of Dunnville.

**WALTER MORRISON CATTO KYNOCH**—Dr. W. M. C. Kynoch of Vancouver, British Columbia, died on August 17, 1963. He was 75. Dr. Kynoch was born in Aberdeen, Scotland, in 1888. Following graduation from the North Pacific Dental College (University of Oregon), he practised in British Columbia and spent the last ten years before his death in North Vancouver. He was active in the British Columbia Dental Association, the Vancouver and District Dental Society and the Ferrier Gold Foil Study Club. Dr. Kynoch is survived by his wife, Josephine; one son, David; and a daughter, Mrs. Frank Scott as well as three grandchildren.

**ANDRE LAFERRIERE**—Le Dr A. Laferrière de Ville Gagnon, P. Qué., âgé de 40 ans, est décédé au mois d'août 1963. Il était né à Chicoutimi, P. Qué., en 1922. Le Dr Laferrière obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1950. Il exerçait pendant plusieurs années à Chicoutimi.

**EDGAR JOHN LEHMAN**—Dr. E. J. Lehman of Toronto, Ontario, died on August 9, 1963. Dr. Lehman graduated from the Royal College of Dental Surgeons of Ontario in 1913. For many years he served as a clinician on the staff of the Division of Dental Services, Toronto Department of Public Health until his retirement in 1957. He was an associate member of the Canadian Dental Association. Dr. Lehman is survived by a sister, Miss Maud E. Lehman of Toronto.

**CHARLES R. OKE**—Dr. C. R. Oke of Winnipeg, Manitoba, died on August 1, 1963. He was 68. Dr. Oke was born in Boissevain, Manitoba, in 1894. Following his graduation from the Royal College of Dental Surgeons of Ontario in 1919 he practised in Winnipeg. Dr. Oke is survived by his daughter, Mrs. L. F. Burton of Vancouver.

**MILFORD H. OTTEM**—Dr. M. H. Ottem of Watrous, Saskatchewan died June 7, 1963. He was 45. Dr. Ottem was born in Laura, Saskatchewan in 1918 and graduated from the University of Alberta in 1944. While attending university he was a member of the Canadian Army Dental Corps and subsequently served with the Corps until 1946. Following his discharge he established a practice in Kamloops, British Columbia, later moving to Fort St. John, Alberta, Winnipeg, Manitoba and Watrous. Dr. Ottem is survived by his wife, Margaret; one son, Delmar; two daughters, Pamela and Nancy; his parents, Mr. and Mrs. Peter Ottem of Unity, Saskatchewan; one brother, Ray of Kamloops, British Columbia; and two sisters, Mrs. Vera Beaton of Phoenix, Arizona and Mrs. Florence Deshayes of Regina, Saskatchewan.

**WILLIAM ALAN ROBERTSON**—Dr. W. A. Robertson of Whalley, British Columbia died on July 7, 1963. He was 46. Dr. Robertson was born in Moose Jaw, Saskatchewan in 1916 and graduated from the North Pacific Dental School (University of Oregon) in 1944. He practised for 13 years in the Fraser Valley. During World War II he served with the Canadian Dental Corps. Dr. Robertson is survived by his mother, Mrs. W. A. Robertson.

**HERBERT M. SCHWEITZER**—Dr. H. M. Schweitzer of Regina, Saskatchewan, died on August 24, 1963. He was 75. Dr. Schweitzer was born in Shakespeare, Ontario, in 1888 and graduated from the Royal College of Dental Surgeons of Ontario in 1913. Dur-

ing World War I he served in Siberia as a captain in the Canadian Dental Corps. He was a past president and life member of the Regina Dental Society. Dr. Schweitzer is survived by his wife, Olive; two daughters, Maida of Saskatoon and Mrs. J. D. Good of Iowa City; a sister, Mrs. Alex Christner of New Hamburg, Ontario; and three grandchildren.

JOHN CAIRNDUFF SHIELDS—Dr. J. C. Shields of Toronto, Ontario, died on July 28, 1963. He was 89. Dr. Shields was born in 1874. He graduated from the Royal College of Dental Surgeons of Ontario in 1899 and was made a life member of the college in 1949. Dr. Shields is survived by his wife, Minnie E.; one son, Cairnduff Y.; and a daughter, Marjorie E.

## conventions

### **Toronto Academy of Dentistry Winter Clinic November 28, 1963**

The Annual Winter Clinic of the Academy of Dentistry, Toronto, will be held this year at the Royal York Hotel, Toronto, November 28, 1963. "Occlusion as it concerns all aspects of the practice of dentistry" will be the main theme of a varied program featuring guest clinicians, table clinics and commercial exhibits. All dentists are cordially invited to attend.

*Donations for Dental Education* • The Canadian Fund for Dental Education, sponsored by the Canadian Dental Association and the Canadian Section, American Dental Trade Association was established in 1963 to aid dental education, assist dental schools, promote scholarships and student loans, and help recruit new students for Canada's dental schools. Direct contributions as well as living memorial donations that honour the memory of a deceased person are gratefully received. When occasions for memorial contributions arise, obituaries may indicate that contributions to the Fund are appropriate in expression of sympathy. Cheques should be made payable to the Canadian Fund for Dental Education, 234 St. George Street, Toronto 5, Ontario. Donors are furnished receipts which entitle them to income tax deduction.

## announcements

| CANADIAN DENTAL ASSOCIATION |                   |                | FÉDÉRATION DENTAIRE INTERNATIONALE |                |  |
|-----------------------------|-------------------|----------------|------------------------------------|----------------|--|
| 1964                        | Edmonton .....    | June 28-July 1 | San Francisco .....                | November 9-12  |  |
| 1965                        | Quebec City ..... | May 30-June 2  | Vienna .....                       | June 26-July 3 |  |
| 1966                        | Halifax .....     | June 12-15     | Israel                             |                |  |
| 1967                        | Toronto .....     | May 14-17      | Paris                              |                |  |

### FUTURE EVENTS

| <i>Date</i>             | <i>Function</i>                                      | <i>Location</i>                                | <i>Officer</i>           | <i>Address</i>                                  |
|-------------------------|------------------------------------------------------|------------------------------------------------|--------------------------|-------------------------------------------------|
| Oct. 26-27,<br>1963     | Montreal Dental Club Pre-Convention Seminar          | Queen Elizabeth Hotel, Montreal                | Dr. W. Kowall            | 1410 Guy Street, Montreal, P. Que.              |
| Oct. 28-30,<br>1963     | Montreal Dental Club Annual Fall Clinic              | Queen Elizabeth Hotel, Montreal                | Dr. W. Kowall            | 1410 Guy Street, Montreal, P. Que.              |
| Nov. 17-22,<br>1963     | VIIth Mexican Dental Congress                        | Mexico City, Mexico                            | Dr. R. Sanchez-Woodworth | Sinaloa No. 9, México 7, D.F., México           |
| 25 nov.-1 déc.,<br>1963 | XXXVIIes Journées Dentaires Internationales de Paris | Maison de la Chimie, Paris                     | M. Henri Huguet          | 33 ave Pierre 1er de Serbie, Paris 16e, France  |
| Nov. 27,<br>1963        | Canadian Academy of Prosthodontics                   | Royal York Hotel, Toronto                      | Dr. W. G. Woods          | 2 Bloor Street East, Toronto, Ont.              |
| Nov. 28,<br>1963        | Annual Winter Clinic, Toronto Academy of Dentistry   | Royal York Hotel, Toronto                      | Mrs. N. H. Montgomery    | 230 St. George Street, Toronto 5, Ont.          |
| Feb. 1-8,<br>1964       | Third Caribbean Dental Convention                    | Trinidad Hilton Hotel, Port-of-Spain, Trinidad | Dr. A. V. Awon           | 43-45 Frederick Street, Port-of-Spain, Trinidad |
| Mar. 1-7,<br>1964       | First Ibero-American Endodontic Congress             | National University, Mexico City               | Dr. F. Romero Castany    | Calle Hamburgo 250, México 6, D.F., México      |

### POSTGRADUATE AND REFRESHER COURSES

TORONTO—The Department of Paedodontics, Faculty of Dentistry, University of Toronto, offers a postgraduate course in PAEDODONTICS, January 6-7, 1964. W. E. Blatz, professor of psychology, University of Toronto, will lecture on emotional growth of the child. Elizabeth Chant-Robertson of the Hospital for Sick Children, and G. H. Beaton, associate professor of nutrition, University of Toronto, will jointly present aspects of nutrition which concern dentistry for children. Donald Fraser of the Hospital for Sick Children will discuss deficiencies in mineral metabolism. J. O'Brien of the same hospital will review aspects of paediatrics related to dentistry for children. Clinical paedodontics, including radiology, space maintenance and patient examination, will be discussed and demonstrated by staff members of the Faculty of Dentistry. The course will be directed by S. A. MacGregor and K. W. Davey. Tuition fee \$40.

Enquiries and requests for application forms should be directed to the chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

MICHIGAN—December 2-4, 1963—Current Concepts of the Use of Amalgam

MICHIGAN—December 2-13, 1963—Minor Oral Surgery

MICHIGAN—December 2-13, 1963—Guiding Occlusal Development

MICHIGAN—December 5-6, 1963—Silicate Restorations

MICHIGAN—December 9-11, 1963—Dental-Facial Development for Paedodontists

MICHIGAN—December 16-20, 1963—Occlusal Equilibration

TEMPLE—December 4, 1963—Dental Materials Related to Prosthetic Dentistry

TEMPLE—December 11, 1963—High Speed in Operative Dentistry

*Note* • Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.



# cda retirement savings plan plan d'épargne-retraite adc

## Statement as of August 31, 1963

### Relevé au 31 août 1963

The Canadian Dental Association Retirement Savings Plan provides dentists in Canada with a flexible method of investing savings on which they may obtain tax deferral. Three separate investment funds are available to participants, namely a Government Bond Fund, a Corporate Bond Fund and a Common Stock Fund.

#### GOVERNMENT BOND FUND

The Government Bond Fund is invested in Canada, provincial, and municipal bonds and mortgages guaranteed under the National Housing Act. The unit price reflects accumulated income and fluctuations in interest rates.

|                            |           |
|----------------------------|-----------|
| Market value of fund ..... | \$321,647 |
| Unit value of fund .....   | \$12.231  |

#### CORPORATE BOND FUND

The Corporate Bond Fund is invested in fixed income obligations of companies incorporated in Canada, the United States or the United Kingdom and in conventional mortgages. The unit price reflects accumulated income and fluctuations in interest rates.

|                            |           |
|----------------------------|-----------|
| Market value of fund ..... | \$586,456 |
| Unit value of fund .....   | \$12.976  |

#### COMMON STOCK FUND

The Common Stock Fund provides a medium for investing in equities and for participating in the long-term growth of the economy. The unit value reflects changes in the stock market prices and the general economic conditions together with accumulated income.

|                            |             |
|----------------------------|-------------|
| Market value of fund ..... | \$1,453,382 |
| Unit value of fund .....   | \$15.661    |

Further information can be obtained from the Canadian Dental Association Retirement Savings Plan, 2249 Yonge Street, Toronto 7, Ontario or from the nearest branch of the Royal Trust Company.

Le programme d'épargne-retraite de l'Association dentaire canadienne procure aux dentistes du Canada un moyen souple de placer leurs épargnes tout en bénéficiant d'un retardement d'impôt. Trois fonds de placements distincts sont à leur disposi-

tion, à savoir: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les participants peuvent varier leurs contributions entre les fonds, ou encore effectuer le transfert d'un fonds à un autre sans être sujets à l'impôt.

#### FONDS D'OBLIGATIONS GOUVERNEMENTALES

Le fonds d'obligations gouvernementales est investi dans des obligations et débiteures du Canada ou garanties par celui, d'une province du Canada ou d'une municipalité et d'hypothèques garanties en vertu de la Loi nationale sur l'habitation. Le prix unitaire reflète le revenu accumulé et les fluctuations des taux d'intérêt.

|                                 |           |
|---------------------------------|-----------|
| Valeur du fonds au marché ..... | \$321,647 |
| Valeur unitaire du fonds .....  | \$12.231  |

#### FONDS D'OBLIGATIONS CORPORATIVES

Le fonds d'obligations corporatives est placé dans des obligations à revenu fixe de sociétés incorporées au Canada, aux États-Unis ou dans le Royaume-Uni et dans des hypothèques conventionnelles. Le prix unitaire reflète le revenu accumulé et les fluctuations de taux d'intérêt.

|                                 |           |
|---------------------------------|-----------|
| Valeur du fonds au marché ..... | \$586,456 |
| Valeur unitaire du fonds .....  | \$12.976  |

#### FONDS D' ACTIONS ORDINAIRES

Le fonds d'actions ordinaires procure un moyen de placement sous forme d'avoir et de participation dans la croissance à long terme de l'économie. Les placements dans des sociétés canadiennes prédominent mais des investissements peuvent être faits à l'extérieur du Canada afin de profiter d'occasions particulièrement intéressantes. La valeur unitaire reflète les fluctuations des prix du marché, la situation économique générale ainsi que le revenu accumulé.

|                                 |             |
|---------------------------------|-------------|
| Valeur du fonds au marché ..... | \$1,453,382 |
| Valeur unitaire du fonds .....  | \$15.661    |

On peut obtenir d'autres renseignements en s'adressant au Plan d'épargne-retraite de l'Association dentaire canadienne, 2249 rue Yonge, Toronto 7, Ontario ou à la succursale la plus rapprochée de la Royal Trust Company.

Common stock fund as at August 31, 1963

• Fonds d'actions ordinaires au 31 août 1963.

| Description                                                                                       | Number of shares<br>Nombre d'actions | Value<br>Valeur |
|---------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|
| Canadian stocks • Actions ordinaires canadiennes                                                  |                                      |                 |
| Banks, Trust and Mortgage Companies • fiducie et de prêts hypothécaires<br>Banques, compagnies de |                                      |                 |
| Bank of Montreal                                                                                  | 800                                  | \$ 51,400       |
| Bank of Nova Scotia                                                                               | 550                                  | 39,256          |
| Royal Bank of Canada                                                                              | 550                                  | 40,356          |
| Huron and Erie Mortgage                                                                           | 1,000                                | 64,000          |
| Beverages • Breuvages                                                                             |                                      |                 |
| Canadian Breweries                                                                                | 3,700                                | 37,925          |
| Hiram Walker Gooderham & Worts                                                                    | 1,000                                | 55,750          |
| Finance and Loan • Compagnies de prêts et finance                                                 |                                      |                 |
| Industrial Acceptance                                                                             | 1,600                                | 36,000          |
| Forest Products • Produits forestiers                                                             |                                      |                 |
| Dominion Tar & Chemical                                                                           | 1,500                                | 25,313          |
| Great Lakes Paper                                                                                 | 1,000                                | 20,500          |
| MacMillan, Bloedel & Powell River                                                                 | 700                                  | 16,013          |
| Iron and Steel • Industrie lourde et de l'acier                                                   |                                      |                 |
| Algoma Steel                                                                                      | 1,000                                | 52,250          |
| Steel Company of Canada                                                                           | 2,200                                | 44,550          |
| Merchandising • Détaillants                                                                       |                                      |                 |
| Simpsons                                                                                          | 585                                  | 18,135          |
| Geo. Weston, Class "B"                                                                            | 1,650                                | 29,288          |
| Metals • Métaux                                                                                   |                                      |                 |
| International Nickel                                                                              | 800                                  | 53,600          |
| Miscellaneous • Divers                                                                            |                                      |                 |
| Moore Corporation                                                                                 | 1,000                                | 49,625          |
| Southam                                                                                           | 800                                  | 25,200          |
| Pipelines                                                                                         |                                      |                 |
| Interprovincial Pipelines                                                                         | 700                                  | 56,350          |
| Trans-Canada Pipe Lines                                                                           | 1,300                                | 37,863          |
| Electric Utilities • Electricité                                                                  |                                      |                 |
| Calgary Power                                                                                     | 1,390                                | 29,190          |
| International Utilities                                                                           | 1,800                                | 42,975          |
| Gas distribution • Distribution de gaz                                                            |                                      |                 |
| Consumers' Gas                                                                                    | 5,000                                | 57,500          |
| Telephone • Téléphone                                                                             |                                      |                 |
| Bell Telephone                                                                                    | 800                                  | 42,700          |
| Total                                                                                             |                                      | 925,739         |
| Foreign stocks • Actions ordinaires étrangères                                                    |                                      |                 |
| Aviation                                                                                          |                                      |                 |
| North American Aviation                                                                           | 700                                  | \$ 41,321       |
| Chemicals • Produits chimiques                                                                    |                                      |                 |
| E. I. du Pont                                                                                     | 140                                  | 36,886          |
| W. R. Grace                                                                                       | 800                                  | 37,848          |
| Monsanto Chemicals                                                                                | 770                                  | 45,431          |
| Electrical products • Produits électriques                                                        |                                      |                 |
| General Electric                                                                                  | 220                                  | 19,422          |
| Insurance • Assurance                                                                             |                                      |                 |
| Insurance Co. of North America                                                                    | 300                                  | 30,789          |
| Lincoln National Life                                                                             | 200                                  | 38,452          |
| Miscellaneous • Divers                                                                            |                                      |                 |
| I.B.M.                                                                                            | 100                                  | 48,172          |
| Petroleum • Pétroles                                                                              |                                      |                 |
| Royal Dutch Petroleum Co.                                                                         | 1,000                                | 51,180          |
| Telephone • Téléphone                                                                             |                                      |                 |
| American Telephone and Telegraph                                                                  | 300                                  | 40,374          |
| Total                                                                                             |                                      | 389,875         |
| Total securities • Valeur totale                                                                  |                                      | \$1,315,614     |
| Cash and short term investments • En caisse et placements à courte échéance                       |                                      | 137,768         |
| Total value • Valeur globale                                                                      |                                      | 1,453,382       |

*L'Association Dentaire Canadienne*

Volume 29  
Numéro 10  
octobre 1963

JOURNAL

*The Canadian Dental Association*

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## **Les voies de propagation de l'infection dentaire**

*par Arto Demirjian,\* D.D.S., M.Sc.D., Montréal, P.Qué.*

Les enflures au niveau de la face et des maxillaires posent depuis toujours des problèmes compliqués. L'avènement des antibiotiques, surtout de la pénicilline, a paru être la réponse à ces infections, mais par la suite, la profession dentaire s'est rendu compte que l'antibiothérapie, loin de remplacer la chirurgie, ne lui constituait qu'un adjuvant. La chirurgie reste donc la thérapeutique de choix pour traiter les enflures qui se localisent aux

environs de la cavité buccale. La réussite des traitements chirurgicaux repose sur la connaissance anatomique des régions où se produit l'inflammation. Les notions d'anatomie demeurent essentielles tant que les recherches ne permettront pas au chirurgien dentiste de traiter par d'autres moyens les infections des maxillaires, de la face et du cou. L'omnipraticien se doit aussi bien que le spécialiste de connaître son anatomie pour éviter des bourdes du genre de celle qu'avait commise un dentiste en méprenant pour un lipôme la boule graisseuse de Bichat et en expédiant les tissus qu'il avait enlevés à un laboratoire anatomo-pathologique!

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Conférence prononcée au cours du 8e Congrès de l'Association dentaire de la province de Québec, le 23 mai 1963.

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Les infections dentaires se propagent ordinairement en suivant des trajets déterminés par l'arrangement des tissus. L'illustration la plus simple de l'extension d'une infection dentaire se fait au niveau de la région péri-apicale, appelée communément l'abcès alvéolo-dentaire.

L'abcès dentaire banal est d'ordinaire sans gravité. Mais il peut se compliquer.

(a) soit du côté osseux, en causant des ostéites ou des ostéomyélites, au lieu de se diriger dans des cavités osseuses, comme les sinus, les orbites, etc.

(b) soit du côté cellulaire, en formant des cellulites, des phlegmons, etc.

L'infection peut aussi se propager par voie circulatoire:

(c) par voie veineuse, occasionnant des thromboses des sinus veineux ou des thrombophlébites des troncs veineux.

(d) par voie lymphatique, causant des lymphangites ou des adénites.

#### TRAJETS DIRECTS ET OSSEUX

Quelles sont, en se basant sur les données anatomiques, les voies d'extériorisation d'un abcès alvéolo-dentaire au maxillaire supérieur et au maxillaire inférieur?

1. *Abcès alvéolo-dentaire des incisives supérieures.* — L'infection à l'apex de ces dents, en raison de la topographie de leurs racines, évolue, en général, vers le vestibule. Un gonflement qui se localise du côté palatin est le plus souvent causé par une réaction inflammatoire à l'apex de la latérale.

Les fluxions occasionnées par les incisives se retrouvent surtout dans la lèvre supérieure et dans la région nasogénienne. La collection peut aussi se diriger vers le plancher des fosses nasales, selon l'épaisseur de l'os ou la longueur des racines.

2. *Abcès alvéolo-dentaire de la canine supérieure.* — L'évolution se produit vers l'angle interne de l'œil, à cause de la longueur de la racine de cette dent. Des cas ont été observés où la collection s'était

extériorisée sur la paroi latérale de la cavité nasale. Dans ce cas, le diagnostic différentiel d'une suppuration du sinus maxillaire a son importance.

3. *Abcès alvéolo-dentaire des prémolaires supérieures.* — Le pus, dans cette région de l'arcade dentaire, se dirige généralement vers le vestibule, mais une infection à la racine palatine de la première prémolaire peut se manifester à la voûte palatine. La deuxième prémolaire, à cause de la proximité de son apex avec le sinus, peut déclancher soit un empyème, soit une sinusite.

4. *Abcès alvéolo-dentaire des molaires supérieures.* — L'extériorisation des infections des molaires, par la disposition des racines en rapport avec le sinus et aux tables externe et interne du maxillaire, peut se faire: (a) du côté vestibulaire, (b) du côté palatin, (c) dans le sinus du maxillaire.

5. *Abcès alvéolo-dentaire des incisives et des canines inférieures.* — L'infection localisée à l'apex de ces dents, en raison des structures anatomiques de la région (muscles de la houppe), se dirige dans deux sens: (1) en haut, vers la muqueuse du vestibule, parfois avec une tuméfaction de la lèvre inférieure; (2) en bas, vers la région du menton. Il y a rarement formation de fistule.

6. *Abcès alvéolo-dentaire des prémolaires inférieures.* — La collection de pus, encore à cause de l'insertion plutôt basse des muscles carré du menton et triangulaire des lèvres, s'élabore dans le replis muqueux labial. Il est important de différencier cette infection avec l'abcès migrateur qui prend son origine dans la région des molaires et qui se propage vers la région prémolaire en suivant la gouttière buccinato-maxillaire.<sup>1</sup>

7. *Abcès alvéolo-dentaire des molaires inférieures.* — Les facteurs anatomiques qui entrent en jeu dans la propagation

des infections de cette région sont les suivants (Figure 1):

(a) l'épaisseur de la table externe de l'os mandibulaire qui augmente d'arrière en avant. La table interne se comporte d'une façon contraire. C'est là un facteur important dans l'extériorisation de la collection.

(b) les insertions du buccinateur à la ligne oblique externe et du mylohyoïdien à la ligne oblique interne jouent un rôle primordial dans la projection du pus vers la partie supérieure (vestibule ou plancher buccal); vers la partie inférieure (région sous-maxillaire), du côté interne ou la joue, du côté externe;

(c) la longueur des racines, qui joue un rôle important dans la localisation de la collection.

Tels sont les trajets d'extériorisation des abcès alvéolo-dentaires. Ces infections peuvent aussi s'infiltrer dans les cavités osseuses avoisinantes en suivant des voies spécifiques, qui ne constituent pas des caprices du moment!

L'extraction des dents supérieures (canine jusqu'à la dent de sagesse) peut occasionner des communications bucco-

sinusiennes et même des sinusites. Les sinusites peuvent propager l'infection jusqu'à l'orbite en passant au travers son plancher; l'infection peut continuer à se répandre encore plus haut jusqu'au sinus frontal; la voute de l'orbite peut se perforer et le pus monter dans la région du lobe frontal du cerveau. L'infection, en se propageant vers la base du crâne, déterminera une sinusite sphénoïdale, l'ostéomyélite du corps et de la grande aile du sphénoïde et finalement une méningite. Une sinusite sphénoïdale peut se compliquer soit en une thrombose du sinus caverneux, soit en un abcès dans la fosse cérébrale moyenne.

Voilà comment une infection peut se propager par voie directe ou osseuse.

#### TRAJETS PAR ESPACES CELLULAIRES

Les cellulites se propagent à travers les différents espaces cellulaires.<sup>2-5</sup>

Les espaces cellulaires sont des espaces virtuels (à l'état normal) entre les plans des aponévroses. L'infection et le pus détruisent le tissu cellulaire conjonctif lâche qui normalement rapproche deux

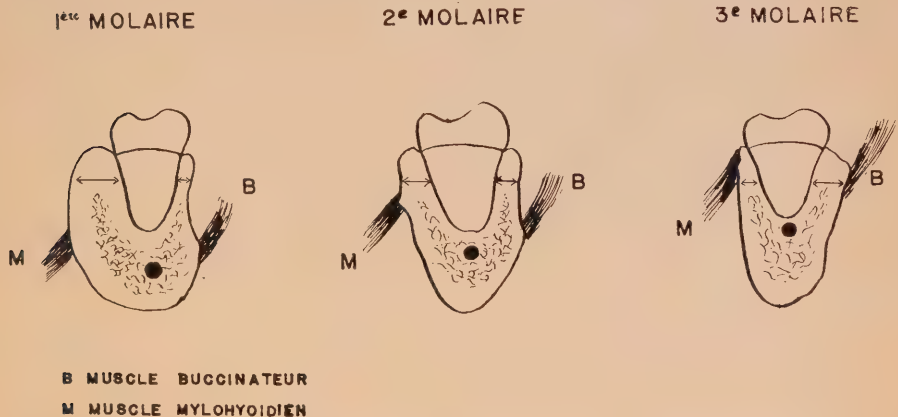


FIGURE 1 Coupes de la mandibule aux niveaux de la 1<sup>re</sup>, 2<sup>e</sup> et 3<sup>e</sup> molaires montrant les attachements des muscles buccinateur et mylohyoïdien et les épaisseurs des tables externes et internes.

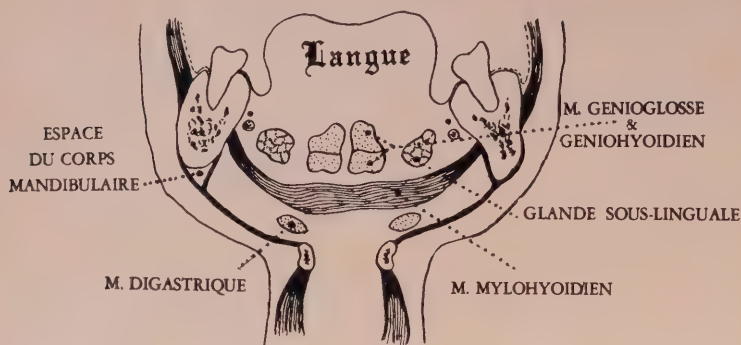


FIGURE 2 Coupe frontale au niveau de la mandibule et de la langue montrant l'attachement de l'aponévrose cervicale et la formation de l'espace du corps mandibulaire. (D'après Hollinshead: *Anatomy for surgeons*; Hoeber.)

plans aponévrotiques: c'est alors qu'il se crée un espace cellulaire vrai.

1. *L'espace du corps mandibulaire.* — C'est un espace formé par les deux feuillets (superficiel et moyen) de l'aponévrose cervicale. Ces feuillets sont réunis en-dessous du niveau de l'os hyoïde, mais ils se séparent exactement sous le corps de la mandibule pour former l'espace du corps mandibulaire (Figure 2).

Les feuillets aponévrotiques, du côté lingual et buccal, sont de part et d'autre collés au périoste. L'espace, à sa partie supérieure, est fermé par le mucopérioste de la région alvéolaire. L'extension antéro-postérieure de l'espace s'étend de la symphyse jusqu'à la région de la troisième molaire.

Les infections qui, la plupart du temps, restent localisées dans cet espace, peuvent s'ouvrir au travers le mucopérioste alvéolaire, soit du côté lingual, soit du côté buccal. Une troisième voie est possible: l'infection peut passer à la partie postérieure de l'espace masticateur. La direction de l'infection, du côté lingual, est influencée par la position du muscle mylohyoïdien par rapport à la racine de la dent en cause. L'infection des dents antérieures (incisives, canines, prémolaires) se situe au-

dessus du plancher buccal. Mais, dans la région des molaires, elle peut envahir l'espace sous-maxillaire. L'insertion du buccinateur, du côté buccal, joue aussi un rôle important dans la tengeante prise par l'infection, vers le haut ou vers le bas.

Le drainage de ces collections se fait par une incision soit intra-orale (côté buccal ou lingual), soit extra-orale, au travers la peau, le fascia sous-cutané et le périoste en-dessous du corps mandibulaire.

Les symptômes révélés par l'infection de cet espace sont: douleur et enflure dans la région de la dent en cause, élévation de la température, du pouls et du nombre des inspirations et des expirations.

2. *L'espace masticateur (région ptérigo-maxillaire).* — Cet espace est formé par la continuation des mêmes feuillets superficiels et moyens de l'aponévrose cervicale. La portion superficielle recouvre le muscle masséter du côté externe, monte et s'attache à l'apophyse zygomatique, puis recouvre le muscle temporal.

Le feuillet moyen, par ailleurs, recouvre le ptérigoïdien interne du côté interne et s'attache dans la fosse ptérigoïde (Figure 3). Les deux feuillets se rejoignent au bord antérieur du masséter et au bord postérieur de la branche montante.

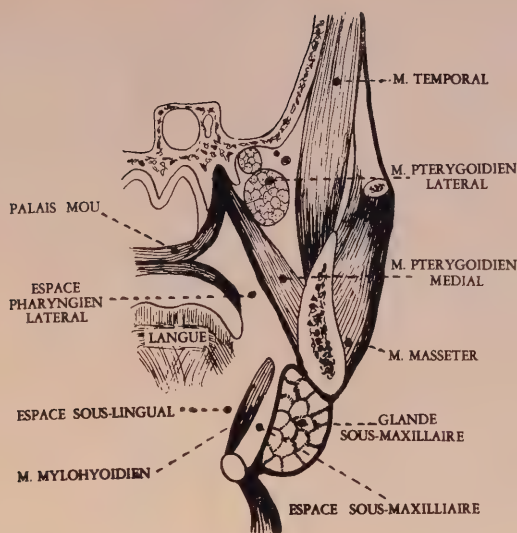


FIGURE 3 Coupe frontale au niveau de l'angle de la mandibule pour démontrer la division de l'aponévrose cervicale qui recouvre les muscles de la mastication et la glande sous-maxillaire, en vue de la formation des différents espaces. (D'après Hollinshead: *Anatomy for surgeons*; Hoeber.)

L'espace masticateur se continue en haut dans la région temporale où il se divise en deux loges: (1) superficielle, entre la surface externe du muscle et son aponévrose; (2) profonde, entre la surface interne du muscle et l'os.

Cet espace masticateur contient alors les muscles de la mastication (masséter, ptérégoïdiens et temporal), la branche montante, les vaisseaux maxillaires, le nerf dentaire inférieur, le nerf lingual et un certain volume de tissu aréolaire lâche. Les infections de l'espace masticateur sont soit une séquelle d'extraction de troisième molaire inférieure, soit l'emploi d'une aiguille septique lors d'une injection à l'épine de Spix. Elles peuvent être la cause ou être secondaires aux infections des espaces du corps mandibulaire, parotidien ou pharyngien latéral.

Le drainage de l'espace s'accomplit par une incision intraorale au niveau du bord antérieur du masséter ou extra-orale, en-

dessous et en arrière de l'angle de la mandibule.

La loge temporale se draine par une incision verticale de 2-3 cm., à l'angle de l'os malaire, du côté externe.

Les symptômes en sont la dysphagie, la douleur, l'enflure et le trismus.

**3. Espace sous-mandibulaire.** — C'est l'espace compris entre l'aponévrose cervicale superficielle et la muqueuse du plancher buccal. On le divise en espace sous-maxillaire, au-dessous du muscle mylohyoïdien et en espace sous-lingual, au-dessus de ce muscle.

Il y a un troisième espace qui se trouve dans la région sous-mandibulaire, c'est l'espace sous-mental ou sous mentonnier, situé de part et d'autre de la ligne médiane et en-dessous du muscle mylohyoïdien.

L'infection simultanée de ces trois portions de l'espace sous-mandibulaire s'appelle l'angine de Ludwig.



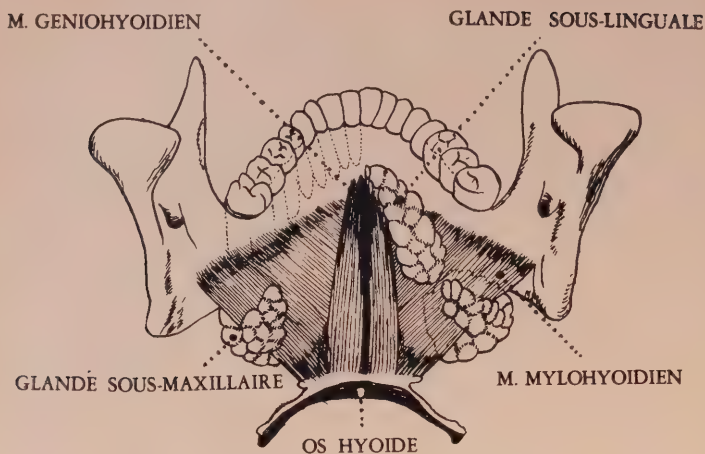


FIGURE 4 Planches de la bouche montrant la portion profonde de la glande sous-maxillaire, la glande sous-linguale au-dessus du muscle myloïdien et la portion superficielle de la glande sous-maxillaire, en dessous.

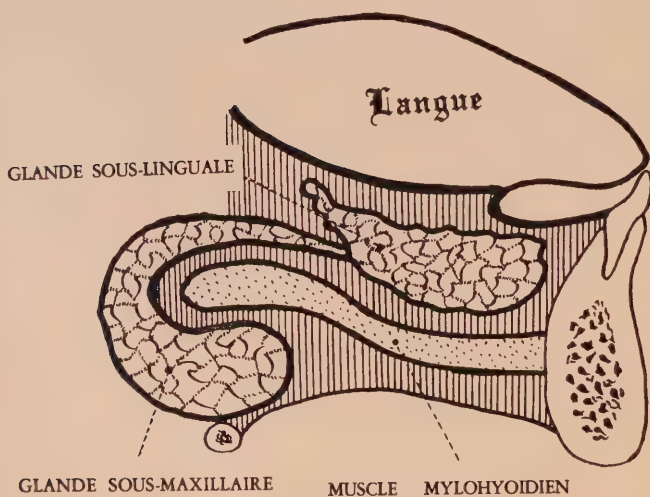


FIGURE 5 Continuité des espaces sous-maxillaire et sous-lingual à travers le bord postérieur du muscle mylohyoïdien. (D'après Hollinshead; Anatomy for surgeons; Hoeber.)

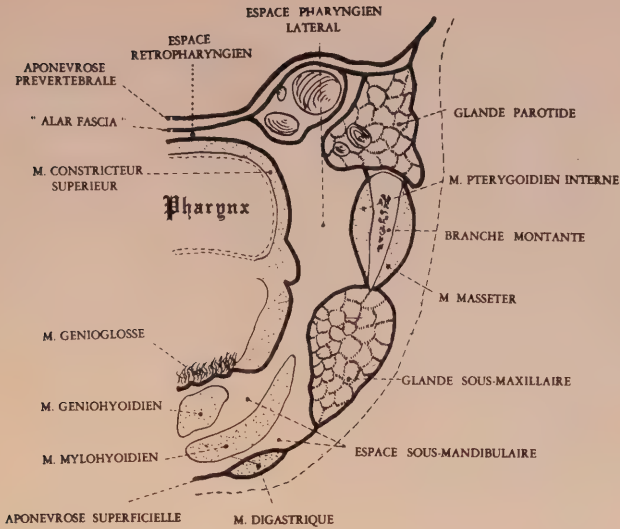


FIGURE 6 Coupe oblique antéro-postérieure pour montrer la continuité des espaces sous-mandibulaire, pharyngien latéral et rétropharyngien. Les aponeuroses cervicales sont représentées par les lignes noires. (D'après Grodinsky et Shapiro; dans Shapiro: Maxillofacial anatomy; Lippincott.)

Dans l'espace sous-maxillaire, se trouvent la portion superficielle de la glande sous-maxillaire, les ganglions lymphatiques régionaux, des portions de l'artère faciale et de la veine faciale antérieure.

Dans l'espace sous-lingual, se trouvent la portion profonde de la glande sous-maxillaire, la glande sub-linguale, les nerfs lingual et grand hypoglosse et les vaisseaux de la langue (Figures 4-6).

L'espace sous-mandibulaire s'infecte par propagation de l'infection, soit de l'espace du corps de la mandibule, soit à travers le plancher buccal, mais jamais de l'espace masticateur.

La propagation de l'infection peut se faire à travers la capsule de la glande sous-maxillaire vers l'espace pharyngien latéral.

4. *L'espace parotidien.* — Cet espace contient la glande parotide, les lymphatiques, l'artère carotide externe et ses deux branches terminales, la veine faciale pos-

térieure (rétro-mandibulaire) et le nerf auriculo-temporal.

Les infections venant de l'espace pharyngien latéral et de l'espace masticateur, aussi bien que de l'oreille moyenne et de la mastoïde, peuvent envahir la région. L'invasion peut se faire aussi par voie du canal de Sténon intra-buccalement.

La parotidite aiguë septique est caractérisée par la douleur et l'enflure de la glande.

La maladie progresse rapidement et la consistance de la capsule étant très dense, le patient peut mourir lorsque le chirurgien attend encore la fluctuation. Alors l'intervention chirurgicale urgente est indiquée.

Ce n'est pas une infection du tissu lâche cellulaire, mais une infection de la glande même et des lymphatiques. Cette infection intéresse le dentiste à cause de ses relations avec la cavité buccale, via le canal de Stenon.

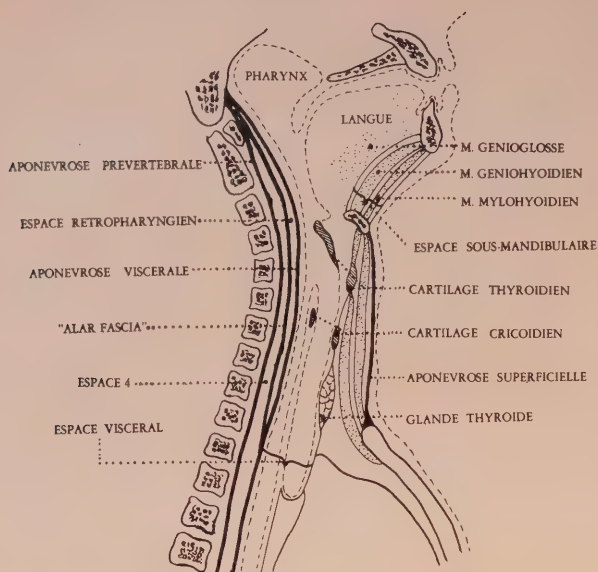


FIGURE 7 Les aponévroses de la tête et du cou dans une coupe sagittale médiane (D'après Grodinsky et Shapiro; dans Shapiro: *Maxillofacial anatomy*; Lippincott.)

5. *Espace pharyngien latéral.*—Cet espace (Figure 6), selon les divers auteurs, porte différents noms: parapharyngien, péripharyngien, maxillo-pharyngien, ptérégo-pharyngien.

C'est un espace viscéral et vasculaire plutôt que musculo-aponeurotique.

Ses limites sont: la base du crâne, à la partie supérieure; à sa partie inférieure, il ne descend pas au-dessous du niveau de l'os hyoïde, la paroi du pharynx et les amygdales, du côté interne et latéralement, l'espace masticateur et l'espace parotidien. Certains auteurs le subdivisent en espace prestylien et postylien par les muscles styloïdiens.

L'espace pharyngien latéral, à cause de ses relations, est sujet à l'envahissement par des infections de différentes régions, surtout de la langue, des dents, de la glande sous-maxillaire, de l'espace masticateur, de la loge parotide et des amygdales.

Alors l'espace pharyngien latéral est le plus important au point de vue transmission des infections venant de la bouche, vers "le Lincoln Highway" ou "l'autoroute" qui est représenté par l'espace rétropharyngien. C'est le point de rencontre des petites routes avant de déboucher dans la grande route qui va conduire vers le crâne, en direction supérieure, et vers le médiastin, en direction inférieure.

6. *L'espace rétropharyngien.*—C'est l'espace qui s'étend de la base du crâne, en haut, à la bifurcation de la trachée, en bas. Il est situé en arrière de la paroi postérieure du pharynx et en avant de la colonne vertébrale.

L'infection peut se propager postérieurement dans l'espace No 4 ou "Danger Space"<sup>13</sup> formé par les deux feuillets de l'aponévrose cervicale profonde (prévertébral et alar). Cet espace s'étend jusqu'au diaphragme (Figures 6 et 7).

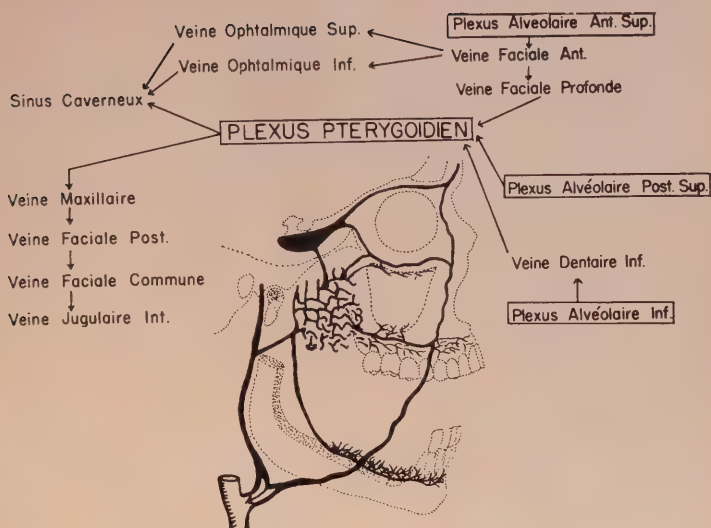


FIGURE 8 Drainage veineux de la région maxillo-faciale.

Tous les espaces communiquant entre eux, sauf l'espace entre les deux feuillets de l'aponévrose temporale. Ces communications peuvent être grande ouvertes ou étroites, mais l'infection peut se propager d'un espace à l'autre, soit par la perforation de la paroi aponeurotique, soit en suivant le trajet des vaisseaux ou des nerfs.

La forme de condensation du tissu conjonctif lâche peut jouer un rôle pour diriger l'infection d'un espace à l'autre. Comme cette condensation du tissu conjonctif est différente de personne en personne, la propagation des infections diffère aussi cliniquement.<sup>6</sup>

#### PROPAGATION PAR VOIE CIRCULATOIRE

Les infections se propagent par les veines et par les lymphatiques.<sup>6,9,11,15</sup>

*Trajet veineux.* — La communication la plus importante qui peut exister entre la

région incisive supérieure et la cavité crânienne s'établit au moyen de la veine faciale antérieure et des veines ophtalmiques: inférieure et surtout supérieure (Figure 8).

C'est surtout la veine ophtalmique supérieure qui prend le sang veineux au coin interne de l'œil pour le conduire jusqu'à la cavité crânienne et enfin dans le sinus caverneux. Les molaires supérieures et les dents inférieures communiquent avec le sinus caverneux au moyen du plexus ptérygoïdien et la portion postérieure de la veine ophtalmique inférieure.

Le premier type de la propagation de l'infection se manifeste d'abord par une cellulite rétro-bulbaire dans l'orbite même. Le second type, par ailleurs, montre les symptômes intra-crâniens, (méningite, thrombose du sinus), avant la cellulite rétro-bulbaire: son diagnostic est plus compliqué.<sup>6</sup>

Le premier symptôme d'un thrombo-phlébite au niveau du sinus caverneux se manifeste dans l'œil par une paralysie du



muscle latéral droit de l'œil, innervé par le nerf oculo-moteur externe. La lésion du nerf optique par l'infection amène la cécité.

Le plexus ptérigoïdien agit comme une sorte de pompe pour recevoir le sang veineux de la région buccale et les dents et le diriger dans différentes directions. C'est dans cette région que les hématomes se produisent le plus souvent.

Il serait utile, pour mieux comprendre la propagation de l'infection par voie veineuse, d'étudier aussi les anastomoses superficielles et profondes qui peuvent exister entre les veines faciales antérieure et postérieure. La région interne du maxillaire supérieur draine dans la veine sous-orbitaire. Cette veine communique avec la veine faciale, antérieurement, et le plexus ptérigoïdien, postérieurement. A son tour, le plexus ptérigoïdien draine dans la veine faciale postérieure.

Le sang veineux du maxillaire inférieur draine par la veine dentaire inférieure dans la veine faciale postérieure. Cependant il y a aussi des anastomoses entre la veine dentaire inférieure et la veine faciale antérieure par la voie de la veine mentonnière. Une troisième voie de communication entre les veines faciales antérieure et postérieure existe au niveau de la joue dans la région du muscle buccinateur. Ce sont les veines faciales superficielles et profondes.

*Trajet lymphatique.* — Le système lymphatique complète le drainage veineux. Il agit, en plus, comme un système de filtration, les filtres étant les ganglions lymphatiques situés un peu partout dans la tête et le cou.

La lymphé, (*lymphe*=eau) est un plasma dilué contenant des lymphocytes fabriqués dans les ganglions. La circulation commence par un filet de capillaires parmi les cellules. Ces capillaires afférents entrent dans les ganglions d'où ils sortent sous forme de vaisseaux efférents qui suivent le trajet des veines du voisinage pour tomber enfin à l'intersection de la veine jugulaire interne et la veine sous-clavière. Les macrophages qui sont dans

les ganglions, luttent, par leur action de phagocytose, contre les micro-organismes lors d'une infection aiguë. Dans le cas d'une infection chronique, il y a une accumulation de cellules ou absorption de substances toxiques.

Toutes ces circonstances peuvent causer l'augmentation de volume des ganglions, les rendre perceptibles à la palpation, d'où l'importance de la connaissance anatomique dans le diagnostic.

La connaissance des ganglions lymphatiques régionaux est très importante: (1) d'abord pour prédire, lors d'une infection ou tumeur, le ganglion qui va être impliqué; (2) surtout pour faire le diagnostic d'une infection ou d'une tumeur cachée.

La place des ganglions est constante, mais leur nombre et volume ne le sont pas. Les ganglions sous-mentonniers et sous-maxillaires sont aussi appelés des ganglions dentaires. Les ganglions cervicaux profonds et superficiels sont situés le long des veines jugulaires externes et internes et séparés par les feuillettes de l'aponévrose cervicale.

La controverse qui existe depuis bien longtemps au sujet de l'existence des vaisseaux lymphatiques dans la pulpe a été résolu d'une façon positive. Ces vaisseaux qui drainent la pulpe et la membrane périodentaire se réunissent pour former un réseau qui est plus ou moins constant. Pour ces raisons, on parle d'une façon plutôt générale du plan de distribution des vaisseaux lymphatiques dentaires et périodentaires (Figure 9). Les vaisseaux qui drainent les dents antérieures sont dirigés antérieurement, ceux qui drainent les dents postérieures sont dirigés postérieurement.<sup>6</sup>

1. Les vaisseaux des dents supéro-antérieures suivent les canaux alvéolaires, pour sortir, à la face, par le trou sous-orbitaire et suivre le cours de la veine faciale antérieure.

2. Les vaisseaux des dents supéro-postérieures suivent les canaux alvéolaires postérieurs pour aboutir à la tubérosité maxillaire et suivre le cours de la veine faciale postérieure.

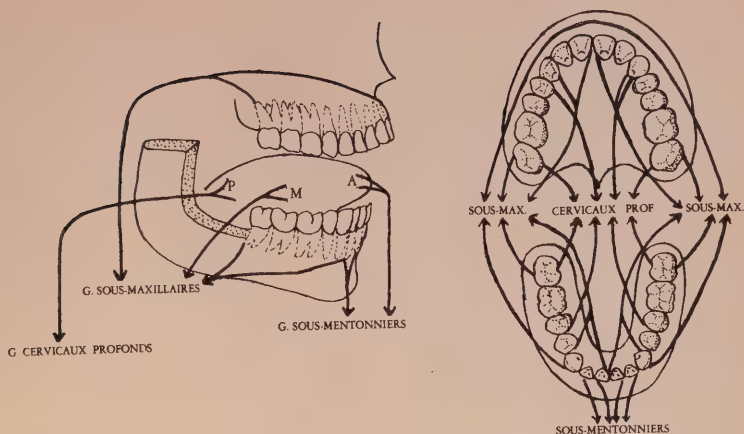


FIGURE 9 Drainage lymphatique des dents, des gencives et de la langue.

3. Les vaisseaux des dents inféro-postérieures suivent le canal mandibulaire et sortent par le trou dentaire inférieur pour rejoindre aussi la veine faciale postérieure.

4. Les vaisseaux des prémolaires inférieures sortent par le trou mentonnier et suivent la veine faciale antérieure.

5. Les incisives inférieures ont leur système de drainage spécial pour aboutir dans les ganglions sous-mentonniers.

Les vaisseaux lymphatiques, dans la région de la ligne médiane, comme dans les cas d'innervation et d'irrigation sanguine, peuvent dépasser du côté opposé, ce qui est très important au point de vue propagation des infections et traitement chirurgical des tumeurs malignes.

Voici des statistiques au sujet de cas qui ont amené la mort par suite de la propagation des infections dentaires. Les infections montent dans la cavité crânienne par voie osseuse, surtout après les extractions des dents supérieures et ceci représente 60 pour cent des cas. La propagation des infections par voie sanguine est beaucoup plus fréquente au maxillaire in-

férieur qu'au maxillaire supérieur. La raison n'en est pas encore connue; on croit que le drainage se fait mieux au maxillaire supérieur qu'à la mandibule (le cas des alvéolites en est un bon exemple).

Le nombre élevé d'extractions n'a pas d'effet sur la propagation de l'infection. Sur dix cas de propagation par voie circulatoire, chez neuf patients, il y avait seulement une seule dent extraite. Tandis que chez les patients où le nombre de dents extraites étaient de quatre, cinq ou six, on n'a pas observé de bactériémie.

La propagation des infections est plus fréquente après l'extraction des molaires, surtout des dents de sagesse inférieures, que celles des dents antérieures. Les relations anatomiques des espaces musculaires avec les dents peuvent expliquer ce phénomène. La thrombose du sinus caverneux a été observée après l'extraction des molaires seulement (9 cas sur 9). Sur 28 cas d'infection post-opératoire, 19 ont traversé à la cavité crânienne: 12 parmi eux ont traversé par voie osseuse, tandis que 7, par voie veineuse. Les complications que l'on rencontre par suite de ces infections sont: l'ostéomyélite, la sinusite, la thrombose

du sinus caverneux, la méningite, l'abcès cérébral et l'hémorragie des veines méningées. Sur 28 cas de décès causés par l'infection dentaire, 17 (60 pour cent des cas) sont dûs à la propagation de l'infection par voie directe, les espaces fasciaux ou la voie osseuse. Tandis que 11 (40 pour cent) sont dûs à la propagation par voie circulatoire.<sup>7,8</sup>

Le nombre élevé de mortalité prouve encore une fois l'importance de la connaissance de l'anatomie dans la prévention de la propagation des infections fatales. Dans ces traitements, les antibiotiques doivent aider et non pas remplacer la chirurgie.

### SUMMARY

*Odontogenic infections may spread either by direct extension, via bony spaces such as sinuses and orbits, via fascial spaces, or via the circulatory or lymphatic systems. The anatomical position of each dental root in the maxilla and mandible determines the localization or extension of a dento-alveolar abscess.*

*The author comments on the formation of the different fascial spaces and their rôle in the extension of a periapical abscess toward the diaphragm or the base of the skull. Particular attention is direct-*

*ed to the rôle of the facial veins in cavernous sinus thrombosis.*

*A description of the lymphatic drainage of the oral cavity is accompanied by directions for the location and palpation of the relevant regional lymph nodes.*

*Finally, a brief review of morbidity and mortality data suggests that (1) extension of infection is not related to the number of teeth extracted at one sitting, and (2) direct extension of infection or extension via bony and fascial spaces gives rise to more fatalities than does extension via the circulatory or lymphatic routes.*

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*La recherche dentaire* • Comme dans toutes les branches de la science, des hommes d'élite, à l'esprit inventif, ont contribué à la découverte des causes d'affections buccales et au perfectionnement des méthodes de traitement. Bien des mystères restent à être élucidés et un champ d'action illimité s'offre à ceux qui sont attirés par les joies de l'investigation. Des laboratoires très bien équipés et des fonds de plus en plus importants sont mis à la disposition des chercheurs.—Le Chirurgien-dentiste.

## **La profession dentaire attire-t-elle les meilleurs sujets comme étudiants?**

La réponse à cette question repose en partie sur la proportion du nombre de dentistes par rapport à la population, car, dans un pays, par exemple, qui compterait un dentiste pour un million d'habitants, les standards utilisés pour le choix de ceux qui se destinent à la profession dentaire seraient différents de ceux d'une région où la proportion est d'un dentiste par 3,000 ou moins de population.

Ces considérations sur les rapports population-dentistes et les standards éducationnels nous porte à dire que la profession dentaire n'attire pas, en général, les candidats les plus doués, et ce pour plusieurs raisons.

La dentisterie a évolué d'un art acquis empiriquement par apprentissage vers un métier raffiné fait de techniques et de mécanique spécialisées, quand elle aurait dû devenir un domaine spécial de la médecine confié à des diplômés d'universités, qui auraient traité les maladies de la bouche en rapport avec l'organisme tout entier. Cette évolution de la chirurgie dentaire vers le statut d'une profession appuyée sur la science aurait dû se faire pendant que se développait dans l'esprit du public cette appréciation fétichiste pour les bienfaits de la santé.

La profession dentaire, pour maintenir son rang et son statut, doit amener dans son sein un grand nombre de jeunes gens et de jeunes filles du meilleur calibre intellectuel possible.

Malgré l'augmentation du nombre des étudiants aux universités et aux autres

institutions de haut savoir, il n'y a pas encore assez de candidats capables de remplir des postes qui exigent une formation spécialisée dans un domaine. Les diverses disciplines se livrent donc une lutte acharnée pour accaparer les meilleurs sujets: dans les affaires, dans le commerce, dans l'industrie, dans les professions libérales.

Les professions elles-mêmes ont haussé leurs standards éducationnels et la dentisterie doit concurrencer la médecine et les autres professions analogues pour obtenir les quelques étudiants qui ont reçu un bon entraînement de base dans les sciences biologiques. Les étudiants, à la fin de leurs études, voient s'ouvrir devant eux un éventail considérable de situations et ils choisissent la carrière qui leur offre les meilleurs revenus, les meilleures conditions de travail, les meilleures chances de poursuivre leurs études, avec bourses et avantages d'autre nature.

Jusqu'où la dentisterie, à la lumière de tous ces avantages, peut-elle attirer des recrues qui songent à leur avenir?

Les finissants les plus doués des collèges se dirigent naturellement vers les facultés les mieux "cotées" et les mieux équilibrées au point de vue intellectuel. C'est pourquoi, si nous voulons attirer chez nous d'excellents sujets, il faut créer dans nos facultés un climat favorable d'intellectualité, non seulement dans les disciplines strictement dentaires, mais aussi dans les disciplines fondamentales des sciences biologiques.



Les dentistes peuvent jouer un rôle dans le recrutement d'excellents étudiants. Ils doivent susciter, dans le milieu où ils vivent, par leur exemple et par les services qu'ils prodiguent à leurs concitoyens, un respect qui porte les autres à suivre la voie qu'ils ont choisie.

Il ne suffit pas de former comme dentistes les meilleurs éléments de la jeunesse pour que la profession garde le rang qu'elle occupe dans la société; il faut aussi éduquer la société sur la valeur et sur l'importance de la dentisterie pour la montrer comme une profession intéressante; il faut combattre les idées fausses que se fait souvent le public de l'exercice dentaire. Les dentistes, comme membres d'une profession organisée, doivent connaître les exigences actuelles de la vie

en commun et, par de bonnes relations extérieures et une conduite professionnelle exemplaire, faire savoir au public que nous sommes conscients de nos responsabilités et capables de les remplir comme membres d'une profession digne de ce nom.

Cela veut dire que les dentistes qui exercent dans des pays où leur profession est étatisée doivent être bien disposés envers les services publics payés par les impôts de la population et ne pas les déprécier en regard des services rémunérés par des sources privées.

Espérons que la jeunesse — en qui les nations mettent leur plus grand espoir — sera encouragée à embrasser la chirurgie dentaire comme carrière pour l'avenir.

G. de M.

## les actualités dentaires

### Nomination de nouveaux gouverneurs

Le Conseil des Gouverneurs de l'Association dentaire canadienne compte, depuis peu, quatre nouveaux délégués. Deux d'entre eux ont assisté pour la première fois, en leur qualité de représentants officiels, aux séances de mai dernier. Deux autres ont été nommés après la réunion.

Le représentant des services dentaires fédéraux a été choisi depuis l'assemblée de mai dernier. Le brigadier Kenneth M. Baird devient le premier représentant de ce groupe. La réunion de 1963 avait autorisé l'addition d'un nouveau membre au Conseil des Gouverneurs. Le brigadier Baird a un mandat de trois ans et il représente les dentistes qui sont à l'emploi de trois ministères: défense nationale, santé nationale et bien-être social et anciens combattants. Le brigadier Baird est le directeur général des services dentaires des armées canadiennes et il est stationné à Ottawa.

Le docteur Hector R. MacLean a été élu représentant de l'Association dentaire d'Al-

berta au Conseil des Gouverneurs. Il est président du comité des services auxiliaires de l'Association dentaire canadienne et doyen de la faculté de chirurgie dentaire de l'Université d'Alberta. La nomination d'un nouveau représentant pour l'Alberta était rendue nécessaire par l'élection du docteur James Zimmerman à la présidence de l'A.D.C.; le docteur Zimmerman était le délégué de l'Alberta.

Le docteur R. Oliver Brett, de Regina, remplaçait le docteur Duff Leask, à l'assemblée de 1963, comme représentant du Collège des chirurgiens dentistes de Saskatchewan. Le docteur William G. Bruce, de Kincardine, président du Collège royal des chirurgiens dentistes d'Ontario, a succédé au docteur M. J. V. Keenan comme un des cinq représentants de la province d'Ontario.

Chacun des dix membres corporatifs de l'Association dentaire canadienne a droit de nommer, de la façon qu'il le désire, un représentant au Conseil des Gouverneurs. De

plus, les membres corporatifs peuvent déléguer un autre représentant pour chaque 500 membres additionnels (ou fraction de 500), au-delà de 500. Ainsi l'Ontario a cinq délégués au Conseil; Québec, trois, et les huit autres provinces, un. Les services dentaires fédéraux ont un représentant. Le président de l'A.D.C. et le président-sortant-de-charge font aussi partie du Conseil. On trouve dans le Journal de l'Association dentaire canadienne, au début de chaque livraison, la liste des membres du Conseil des Gouverneurs.

## PUBLICATION D'UN BULLETIN SPÉCIAL

Les membres de l'A.D.C. ont reçu récemment un *Bulletin* spécial leur apportant des nouvelles de la dernière réunion de l'Association dentaire canadienne. Une version française a rejoint les membres de langue française. Le but de ce bulletin était de renseigner rapidement et exactement les membres des décisions prises par le Conseil des Gouverneurs. On peut s'en procurer des copies supplémentaires en s'adressant au Bureau des renseignements au public, au secrétariat de l'Association.

## DÉCÈS DU DOCTEUR McINTYRE, ANCIEN PRÉSIDENT

Mac nous a quittés. Le docteur Reyburn R. McIntyre, bien connu par tout le Canada et l'ami de tous, particulièrement en Alberta, est décédé le 22 mai dernier. Le docteur McIntyre s'est toujours dévoué pour sa profession et spécialement, ces derniers temps, au recrutement d'étudiants et comme consultant itinérant en orthodontie.

La Société dentaire de Calgary et du district offrait récemment une bourse annuelle portant son nom à la faculté dentaire de l'Université d'Alberta. Il a agi comme président de cette société, comme président de l'Association dentaire d'Alberta, comme premier président de la section d'orthodontie de l'Association dentaire canadienne et, en 1955-56, comme président de l'Association dentaire canadienne. Il était "fellow" du Collège international des dentistes et membre honoraire à vie de la Société dentaire de l'ouest du Canada.

Quelques jours avant sa mort, le docteur McIntyre, de son lit d'hôpital, envoyait un télégramme, rédigé en termes bien personnels, au Conseil des Gouverneurs et à son ami, le docteur James Zimmerman qui entrait en fonction comme président de l'A.D.C. Il faut espérer que la réponse du Conseil,

dont il a suivi toutes les activités avec beaucoup d'intérêt, lui est parvenu avant qu'il devienne inconscient. Peu nombreux sont les dentistes qui ont affiché un sens d'humour tel que celui de Mac et qui se sont dévoués et intéressés comme lui aux progrès de la dentisterie.

## DÉCÈS DE MADAME KEENAN

Madame M. V. J. Keenan, épouse du président de l'A.D.C. pour 1962-63, est décédée à Sudbury, Ontario, le 26 juillet. Madame Keenan avait participé à l'organisation de plusieurs manifestations locales et elle avait joué un rôle de premier plan dans le programme des dames, au cours du congrès de l'A.D.C., en mai dernier. L'Association a exprimé ses condoléances au docteur Keenan et à ses enfants.

## Les facultés dentaires

### OCTROI DE \$50,000 DE LA FONDATION KELLOGG À L'ÉCOLE D'HYGIÉNISTES DE MANITOBA

La Fondation W. K. Kellogg, de Battle Creek, Michigan, a versé un octroi de \$50,000 à l'Université de Manitoba pour y créer une École d'hygiénistes dentaires au sein de la faculté de chirurgie dentaire. Environ \$12,000 seront dépensés pour l'aménagement physique de la nouvelle école et le solde, soit \$38,000, sera utilisé pour les dépenses courantes d'administration au cours des quatre prochaines années. L'Université de Manitoba devient ainsi la quatorzième université, depuis 1948, au Canada et aux États-Unis, à recevoir une subvention de la Fondation Kellogg pour l'établissement d'une école d'hygiénistes. On se propose de recevoir la première classe d'élèves en septembre 1963. Le cours sera de deux ans et on n'admettra d'abord que de 10 à 15 étudiantes, chaque année. Il faudra avoir terminé une douzième année pour être admise.

Une loi de la province permet aux hygiénistes dentaires de remplir certaines fonctions dans la bouche des patients, à condition que ces traitements soient prescrits et surveillés par un dentiste dans son cabinet; ainsi, le dentiste assume la responsabilité des traitements des hygiénistes. Ces fonctions

comportent la prise des radiographies, le curetage et le polissage des dents et d'autres soins, comme l'application du fluor sur les dents des enfants.

La législature de Manitoba a apporté, en 1960, un amendement à la loi, qui permet aux hygiénistes la prise des empreintes pour la prothèse. De plus, aux Etats-Unis et dans plusieurs régions du Canada, les hygiénistes travaillent dans des unités sanitaires où leurs fonctions consistent surtout à faire l'éducation dentaire du public. Les hygiénistes, surtout des filles, exercent aux Etats-Unis depuis au-delà de cinquante ans et au Manitoba la loi leur permet de le faire depuis 10 ans.

Il y a très peu d'hygiénistes dans la province et cette lacune est surtout due au fait que jusqu'en 1961 il n'y avait au Canada qu'une seule école d'hygiénistes, à l'Université de Toronto. Depuis environ un an, l'Université d'Alberta et l'Université Dalhousie ont inauguré des écoles d'hygiénistes, cette dernière université grâce à un octroi de la Fondation Kellogg.

Les officiers du Ministère provincial de la Santé, l'Association dentaire de Manitoba et l'Université ont manifesté leur sincère reconnaissance à la Fondation Kellogg pour cette subvention. On a émis le vœu que l'établissement de cette école, concurremment avec les progrès de la faculté de chirurgie dentaire, contribuera à soulager la pénurie des effectifs dentaires de cette province; on a de plus souhaité plus d'ampleur aux programmes de prévention, car cette question prend de plus en plus d'importance dans l'esprit de ceux qui songent aux problèmes de santé.

## Le Corps dentaire royal canadien

### VISITES ET VOYAGES OFFICIELS

Le brigadier K. M. Baird, directeur général des Services dentaires pour les forces armées du Canada, s'est rendu à Toronto en vue d'assister à la réunion du Conseil des Gouverneurs de l'Association dentaire canadienne, ainsi qu'au congrès conjoint de l'Association dentaire canadienne et de l'Association dentaire de l'Ontario. Il est demeuré à Toronto du 15 au 21 mai.

Parmi les cliniciens qui assistaient au congrès, on remarquait le lt-col. J. W. Turner, qui a traité des derniers perfectionnements relatifs aux couronnes et ponts. Le

lt-col. Turner, qui fait partie du personnel de l'Ecole du Corps dentaire au Camp Borden, terminera bientôt son stage de deux ans à la U.S. Naval Dental School de Bethesda (Maryland), à laquelle il a été affecté en vertu du programme d'échange de dentistes.

Le colonel G. B. Shillington, sous-directeur général des Services dentaires, a aussi pris part à ce congrès, après avoir assisté à la réunion annuelle de l'Académie canadienne de prothèse dentaire tenue le 19 mai.

Le major A. W. Brusso, officier principal du ravitaillement, s'est rendu à Washington (D.C.) pour assister à la réunion annuelle du Standard Working Group for the A.B.C. (American, British, Canadian) Table of Medical Equivalents. Ce projet, qui a été inauguré en 1951, comporte l'analyse des catalogues de fournitures médicales des trois pays, en vue de déterminer l'équivalence des articles qu'on y mentionne et d'établir une échelle d'équivalences, afin de pouvoir identifier dans chaque catalogue les objets qui sont mentionnés dans les autres catalogues.

Le lt-col. S. G. Bagnall a assisté à la réunion mensuelle du bureau de rédaction de revue *Oral Health*, tenue le 8 mai dernier.

### OFFICIERS DE RETOUR DU MOYEN-ORIENT

Le major A. L. Kelland et le capitaine M. D. G. Conrad sont revenus dernièrement au Canada après avoir passé un an au Moyen-Orient avec la Force d'urgence des Nations-Unies. Le major Kelland a été affecté à l'Ecole du Corps dentaire du Camp Borden et le capitaine Conrad, à la 12<sup>e</sup> Compagnie dentaire de Halifax.

Le major R. J. K. Pyne, de la base de l'A.R.C. à Comox (C.-B.), et le capitaine R. J. Paturel, de l'Ecole du génie de Vedder-Crossing (C.-B.), vont les remplacer outre-mer.

### COURS

Les officiers dont les noms apparaissent ci-dessous ont suivi les cours de perfectionnement suivants:

A la base de l'Aviation américaine de Colorado-Springs (Colorado), le major G. I. J. Bisaillon, un cours de chirurgie buccale; à la U.S. Naval Dental School de Bethesda (Maryland), le capitaine D. D. R. Girard, un cours en couronnes et ponts et le capitaine G. T. Crossman, un cours de chirurgie buccale.

Le seul élément vraiment important

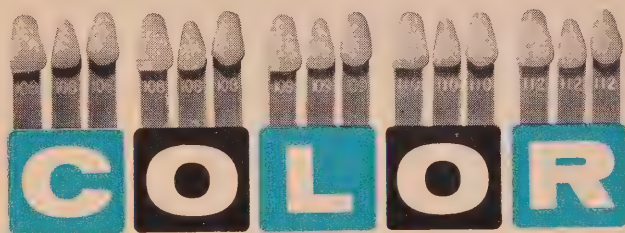
dans l'esthétique d'un dentier

moderne est . . .

# NATURAL



# TOOTH



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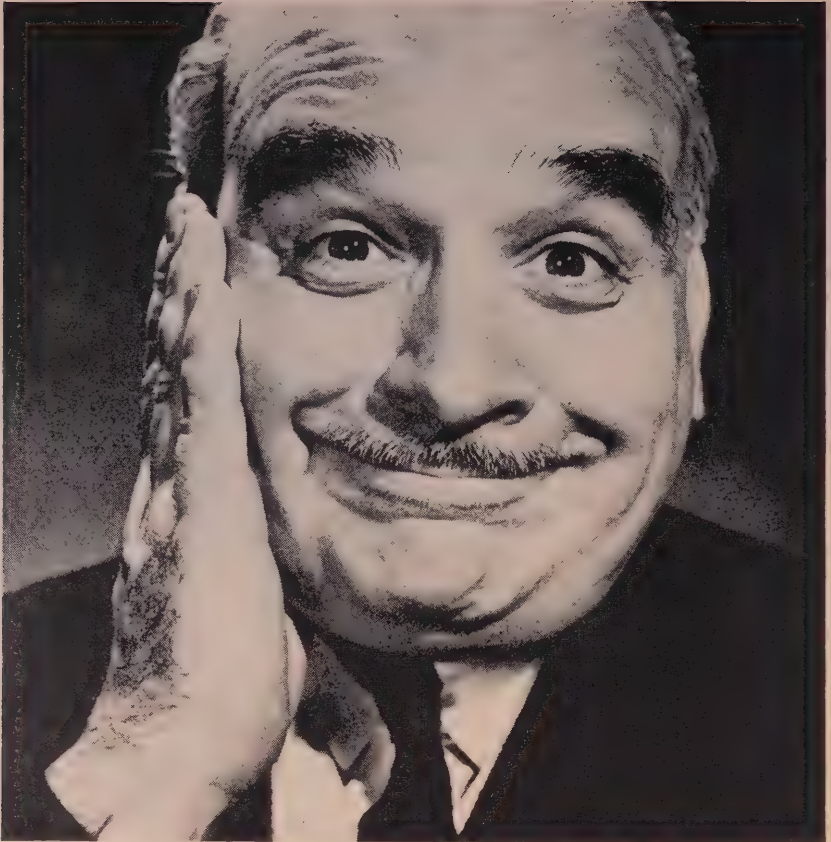
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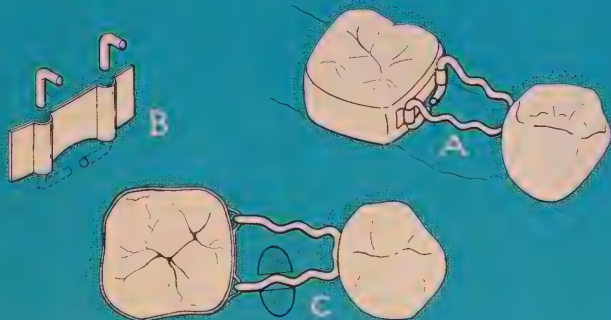
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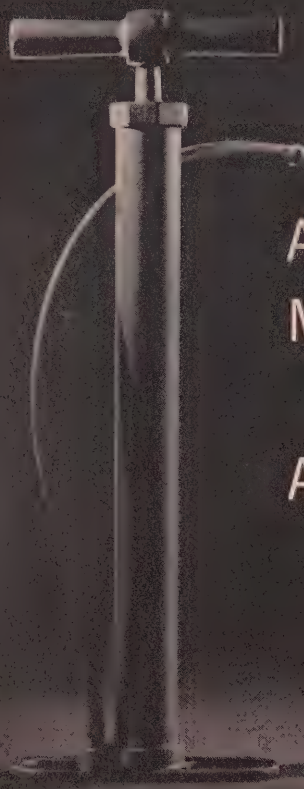
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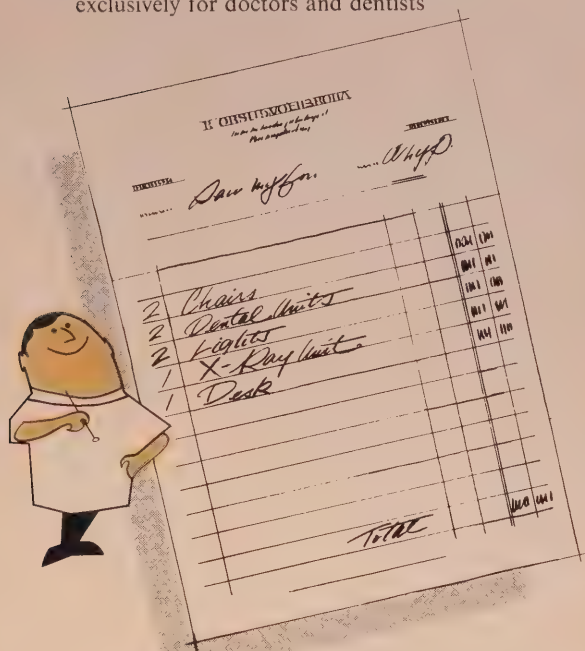
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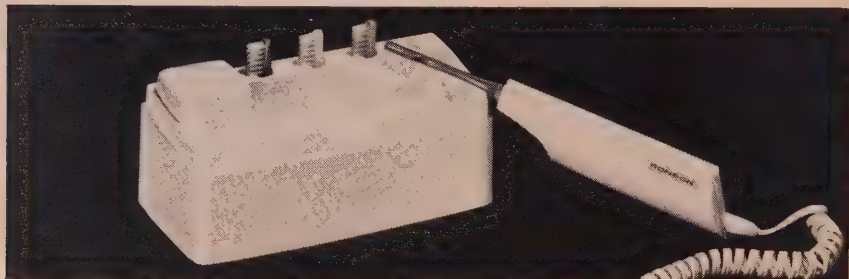
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Ronson has a reputation for building things a little better than anyone else. Their remarkable new Electric Toothbrush is no exception.

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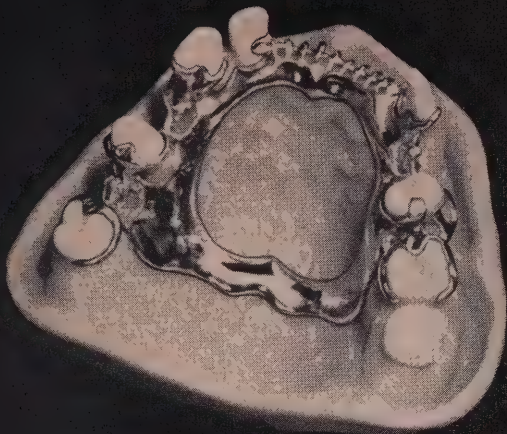
The new Ronson has a high score, indeed: brushing action, versatility, safety—it out-scores other makes on each count. Suggested retail—\$24.95.

Write for your free copy of "What you should know about electric toothbrushes" to Ronson Products of Canada Limited 110 Ronson Drive, Rexdale (Toronto) Ontario

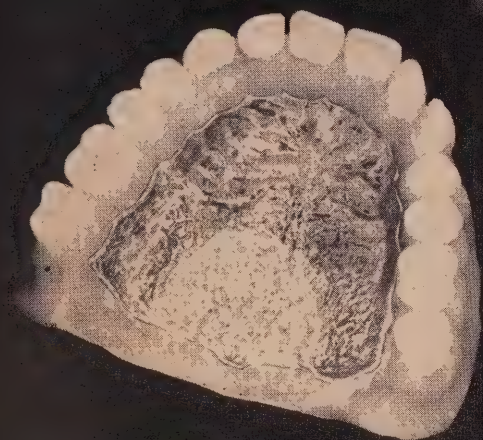
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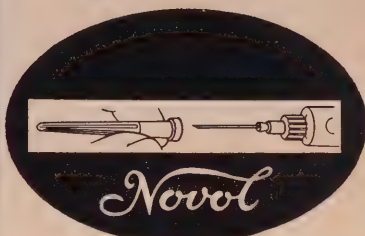
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3.8% with Epinephrine 1:60,000

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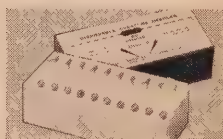
- PRE-STERILIZED! • FIT ANY SYRINGE!
- FIT LIKE REGULAR NEEDLES!
- HUB COLOR INDICATES LENGTH OF NEEDLE!

Just as UNACAINE assures safe anesthesia, so the ingeniously designed Novol Disposable Needle provides that extra margin of safety that impresses patients and builds practice.

Novol Disposable Needles are easy to use! They fit any type of cartridge syringe just like regular needles and chucks. The specially threaded chuck insures perfect fit...needle shafts can't slip...can't be damaged in handling...and the guard can't pop off.

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**ROBERT F. HARVEY** — "Clinical Impressions of a New Antibiotic in Periodontics: Spiramycine".

*J. of the Can. Dental Assn.*, Vol. 27, No. 9, September 1961, pp. 576-584.

The author treated with ROVAMYCINE . . . "three hundred patients who presented a wide variety of oral conditions ranging from simple marginal gingivitis to severe stomatitis with and without bone involvement." In his opinion, "the results were not only gratifying, but they opened new horizons in oral pathology, mainly in the treatment of parodontosis."

**ROLAND GENDRON, D.D.S.**—"L'antibiothérapie en périodontie".

*J. of the Can. Dental Assn.*, Vol. 27, No. 1, January 1961, pp. 62-65.

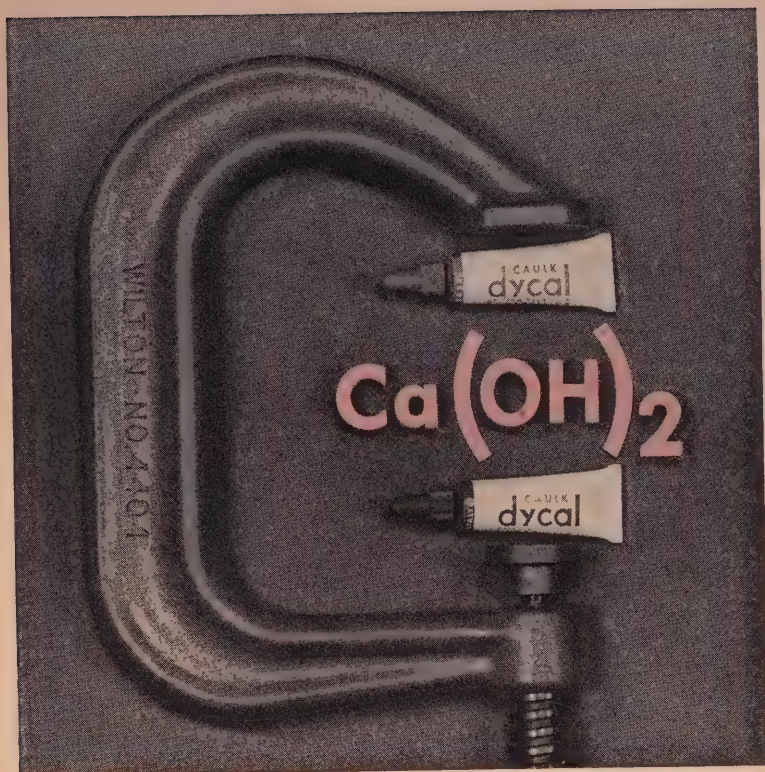
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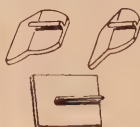
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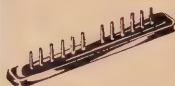
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## 2. *Vital facts you should know about fluoride use*

### DOSAGE CONTROL IS IMPERATIVE

Authorities generally agree that fluoride, used systemically for control of dental caries, should not be in fixed combination with other therapeutic agents, such as vitamins.<sup>1,2</sup> Fluoride dosage schedules are usually based on the age of the child. And if the water the child patient is drinking already contains some fluoride, further adjustments may be necessary. But when a vitamin-fluoride preparation is used, these adjustments may lead to over- or underdosage of vitamins.

#### KARIDIUM—FOR FLEXIBILITY IN FLUORIDE DOSAGE

Karidium contains only one therapeutic agent—pure sodium fluoride. It has only one therapeutic purpose—reduction of dental caries in children. With this single-agent preparation it is easy to prescribe the dosage schedule appropriate for each age group, adjusted to the wide range of the fluoride content of various local water supplies.

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Each tablet contains:

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| Sodium Chloride | 94.49 mg. |
| Disintegrant    | 0.50 mg.  |

(Each tablet yields 1 mg. fluoride ion.)

Bottles of 180 and 1,000 (bulk dispenser).

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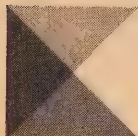
Each 8 drops (0.5 cc.) contains:

|                 |          |
|-----------------|----------|
| Sodium Fluoride | 2.21 mg. |
| Sodium Chloride | 10.0 mg. |
| Distilled water | Q.S.     |

(Each 8 drops yield 1 mg. fluoride ion.)

Dropper top, 2 oz. plastic bottles.

1. J.A.D.A. 62:466 (April) 1961. 2. J.A.M.A. 180:94 (April) 1962.



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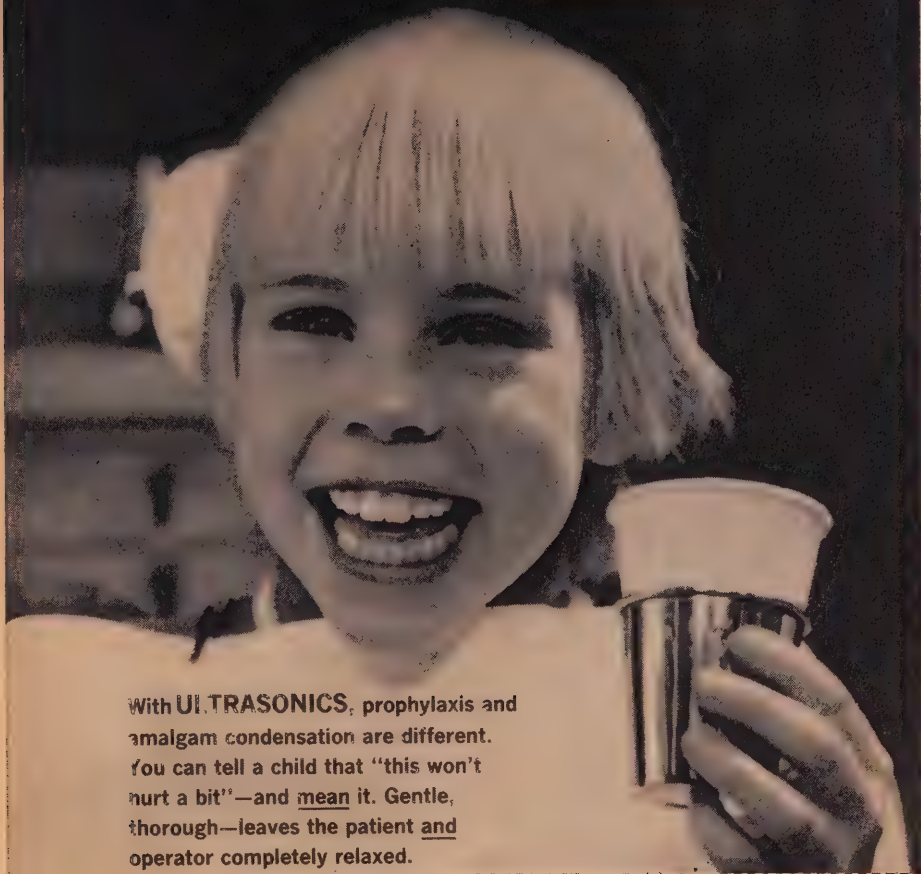
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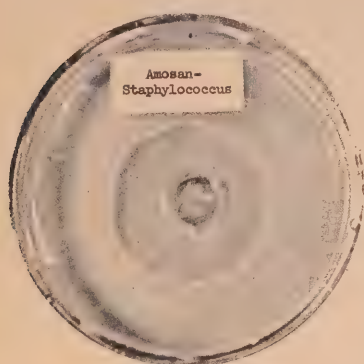
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Ref. 1. Truesdail Laboratories, Inc. Report Aug. 18, 1961.

2. Patrick D. Toto, D.D.S., M.S., Malburn Wilderman, D.D.S., M.S. and Charles Reeves, D.D.S.  
Clinical Evaluation of an Oxygen Liberating Preparation Used Adjunctively in Root Planning.  
Journal of Periodontology. Vol. 31. Jan. 1960



## dental caries

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(continued page 38)

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(continued page 40)



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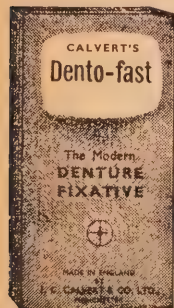
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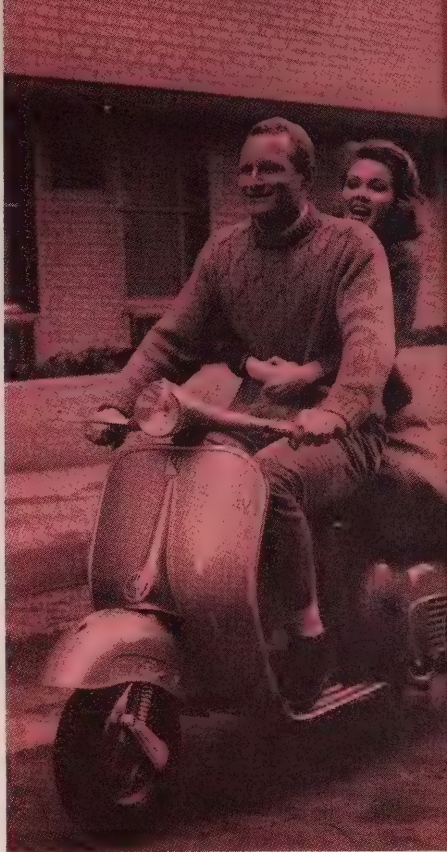
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References: 1. Weil, C., Santangelo, C., Welham, F. S., and Yackel, R. F. Clinical evaluation of mepivacaine hydrochloride by a new method, J.A.D.A. 63:26 July 1961. Other references total 163; more papers in press. Available reprints supplied on request.  
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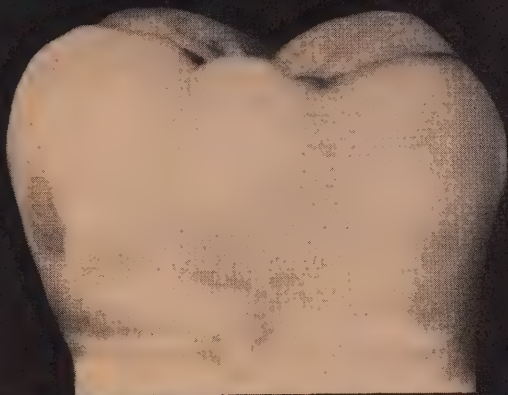
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(1) Pigman, W.; Elliott, H. W., Jr., and Laffré, R. O.: J. Dent. Res. 37:627, 1952. (2) Francis, M. D., and Meckel, A. H.: J. Dent. Res. 39:697, 1960.



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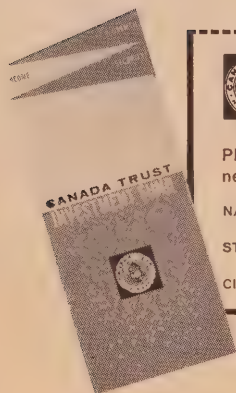
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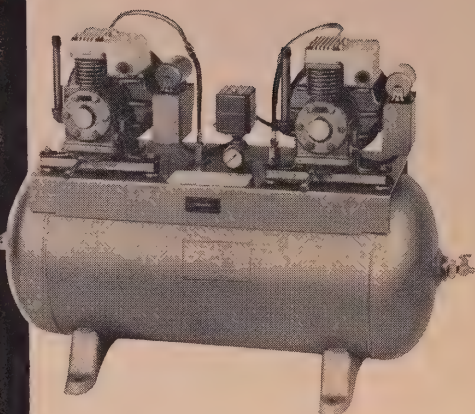
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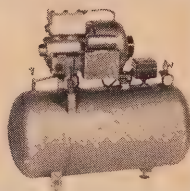
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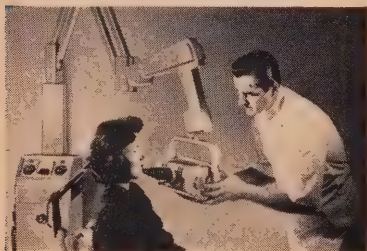
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Published monthly for the Canadian Dental Association by Gordon V. Allen Publications, 95 King Street East, Suite 205, Toronto, Ontario. Telephone 368-6251.

Gordon V. Allen, Advertising Manager.

Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

Authorized as Second Class Mail, Post Office Department, Ottawa, and for payment of postage in cash.

All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month.

All expressions of opinion and statement of supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association.

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*The Canadian Dental Association*

Volume 29

Number 11

Toronto

November 1963

JOURNAL

*L'Association Dentaire Canadienne*

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## **A modified rubber base impression technique**

*Harry Rosen,\* D.D.S., Montreal, P.Que.*

Reference to the properties of the mercaptan or polysulphide rubber impression materials (commonly referred to as rubber base) appears frequently in the literature.<sup>1</sup>

Their extreme accuracy, which is comparable with that of hydrocolloid, coupled with their relative dimensional stability, toughness, and ease of manipulation has afforded them a permanent place in dentistry.

Techniques which are effective when tested in the laboratory are often disap-

pointing when employed in the mouth. Here the dentist may be confronted with an unco-operative or gagging patient, poor visibility, heavy tongue and cheek musculature, a small oral orifice, unhealthy gingiva, and a copious flow of saliva.

A great disparity also exists between the skills of different dentists. These factors, therefore, necessitate the constant search for clinical simplifications of the basic technique.

The standard technique does not compensate for variations in temperature and humidity which occur in different geographic locations or during different seasons in the same location. Simple modi-

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FIGURE 1 Proper consistency of the heavy-bodied rubber base impression material demonstrated by the escape of material through perforations in a metal tray. Note that in the doughy state the material does not run.

fications in technique can offset erratic working and setting times common under these conditions.

Recent changes in the design of tooth preparations, based on sound bio-mechanical principles and enabled by finer cutting instruments, make new demands on both the impression material and the impression technique.

The technique here described enables the writer to take fullest advantage of certain carefully selected rubber base impression materials thus providing maximum clinical versatility and predictability and the greatest measure of success.

#### RATIONALE OF THE BASIC TECHNIQUE

The basic technique calls for a double mix procedure in which a heavy-bodied mix of material is carried to the mouth in a prefabricated custom-built acrylic tray, after a light-bodied mix of material has been placed into or over the prepared teeth with a syringe.

The rationale of the double mix procedure is that the heavy-bodied material provides an overall impression of the area included in the tray, while the light-

bodied material picks up detail which could not routinely be captured in a single mix impression. It naturally follows that this procedure is most effective when the tray material is very heavy and the syringe material is very light.

#### THE HEAVY-BODIED OR TRAY MATERIAL

Several products are commercially available. In the hands of the writer *Neo-plex* rubber impression material (*Surgident*) most closely satisfies the objectives of an ideal heavy-bodied tray material.

The mixing of the polymer (white) and accelerator (brown) pastes results in a tacky plastic mass similar to a mix of any other rubber base impression material. Unlike the behaviour of other materials the tacky state is a temporary one (Figure 1). It subsequently assumes a doughy mouldable state, during which time it is loaded in the tray and inserted into the mouth. In its doughy state this impression material exerts sufficient compressive force to displace moisture, if present, on the gingival margins of a preparation. Also it presses the light-bodied material into intimate contact with the teeth to be reproduced by the impression.

Because it is inserted in a doughy rather than a tacky state it does not tend to run from the borders of the tray (Figures 1 and 2).

Though a prefabricated custom-built acrylic tray is indicated, under extenuating circumstances one can employ any perforated stock tray. The material is sufficiently heavy not to run through the perforations (Figure 1).

The material is fully set in five to eight minutes under normal atmospheric conditions. It is advisable not to remove it from the mouth until it is fully set on the mixing pad. Since changes in temperature and humidity will affect its setting time, the clinician must exercise judgement in adapting it to his working environment.

It is usually mixed prior to the mixing of the light-bodied material. However,

FIGURE 2 Rubber base impression of the upper arch in which one quadrant has been prepared; and alginate impression of the opposing arch. A small acrylic bite index permits easy articulation of the models. Premature contacts must be eliminated by selective grinding prior to making the preparations and impression taking.



where temperature and humidity are high and multiple tooth preparations have been made, it is advisable to mix the two materials concurrently, or even begin the mix of the heavy-bodied material after the light-bodied material has already been spatulated.

As a general rule the heavy-bodied material should not possess a prolonged setting time. During the winter months a few drops of warm water can be incorporated into the mix to hasten the setting process. Since it is imperative that only fresh batches of material be used the date of manufacture is stamped on each package. A shelf life of eighteen months is claimed by the manufacturers. As the material ages its oils separate out and tend to be expressed separately from the tube. Such excess oils should be absorbed with a cotton roll prior to spatulation as they retard the setting process.

A large rigid spatula is recommended.<sup>2,3</sup> A home-made slab of plastic laminate such as *Formica* is preferred by some to the mixing pads supplied by the manufacturer.

#### THE LIGHT-BODIED MATERIAL

To be most effective the light-bodied material should (1) flow or spread readily, and (2) provide ample working time.

Most commercially available products satisfy these criteria. Like the tray material the critical shelf life may result in inconsistencies between different batches of material. One should, therefore, employ fresh batches, particularly when making multiple tooth impressions. When in doubt, a test mix should be made prior to use in the mouth.

When the temperature and humidity are high or when multiple tooth impressions are being made, one drop of oleic acid (0.2 ml.) can be added to one inch of accelerator paste in order to provide more working time and a better flow. The setting time is then concomitantly retarded. The impression should not be removed from the mouth until the material on the mixing pad has set. This can occasionally take as long as fifteen minutes.

Upon request the manufacturer will supply the oil which is used in the manufacture of the paste. Four drops of this oil added to one inch of either the white or brown paste will also retard the working time and provide a mix which flows more readily. The dentist is cautioned to spatulate the material thoroughly.

In preparing the light-bodied material one must consider:

1. The number of prepared teeth and their accessibility.



FIGURE 3 A trimmed spiral lentulo rotating at slow speed is used to spin the light-bodied material into a post preparation.

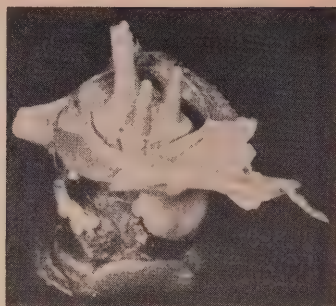


FIGURE 4 Impression of a triple post and core preparation made in an endodontically treated lower first molar with divergent roots. Light-bodied material can be easily spun to the base of the preparation.

2. The kinds of preparations (the flow of the material is far more critical for pin inlays than for full crowns).

3. The number of subgingival margins that require gingival retraction.

4. The temperature and humidity of the room.

5. The quantity of polymer and accelerator pastes remaining in the tubes. Tubes which are almost empty have usually had the oils expressed from them, resulting in a mix with poor flow properties and less working time.

6. The technique employed in depositing the material into or over the prepared teeth.

The basic technique calls for a syringe to carry the light-bodied material to the prepared teeth. Valuable working time is dissipated in loading the syringe. As a result the material has often lost some of its flow before it is deposited over the prepared teeth. The cleaning of the syringe is messy and time-consuming. It is difficult or impossible to tease the material into narrow pin preparations without trapping air.



FIGURE 5 Impression of a multiple pin and core preparation for a mutilated vital lower molar. Light-bodied material can be easily spun to the base of the pin holes.



With some clinical experience the dentist can dispense with the syringe. In its place he can employ: a trimmed spiral lentulo<sup>2,3</sup> (Figure 3), a paddle-shaped plastic instrument, and a jet of cool air from an air syringe.

The trimmed spiral lentulo is used to spin the light-bodied material into grooves, boxes and retentive pin holes. It is a corkscrew-shaped device made for use with either the straight handpiece or the contra angle. While rotating at slow speed, its spinning or whipping action drives the material to the base of the preparation.<sup>2,3</sup> It is equally effective for teasing impression material into post preparations made in endodontically treated teeth (Figures 4 and 5).

The plastic instrument is used to deposit the material over smooth surfaces and into the interproximal embrasures. Subsequently the jet of air serves to drive the material beyond the finish line into the troughs created by the deflection of the gingival tissue. If the consistency of the heavy-bodied tray material is correct it will act as a vehicle for carrying the light-bodied material into intimate contact with the surfaces to be reproduced, thereby providing the maximum detail in the impression.

#### THE TRAY

The tray should be rigid, stable and reasonably well adapted to the structures being reproduced without impinging on them. Such a tray assures maximum com-



FIGURE 6 Preparation of a full arch acrylic tray on a study model of the lower arch. Layer of base plate wax covered with cellophane prior to adapting the wafer of doughy acrylic resin. Retention holes are drilled before a thin layer of adhesive is applied.

pressibility of the impression material, thereby reducing the incidence of voids. The custom-built cold-cure acrylic tray satisfies these objectives. It is prefabricated by adapting cold-cure resin to a study model which has been relieved with a layer of base plate wax. This allows for a thickness of 2 to 3 mm. of impression material over unprepared tooth surfaces and roughly 4 to 5 mm. over surfaces that have been prepared. Though research<sup>1</sup> indicates that a 2 to 3 mm. thickness is desirable, greater thicknesses are clinically tolerated (Figures 6 and 7).

Since the rubber base impression material is doughy when inserted in the

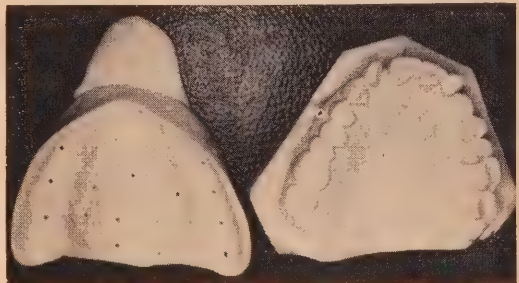


FIGURE 7 Typical acrylic tray fabricated on a study model of an upper arch.



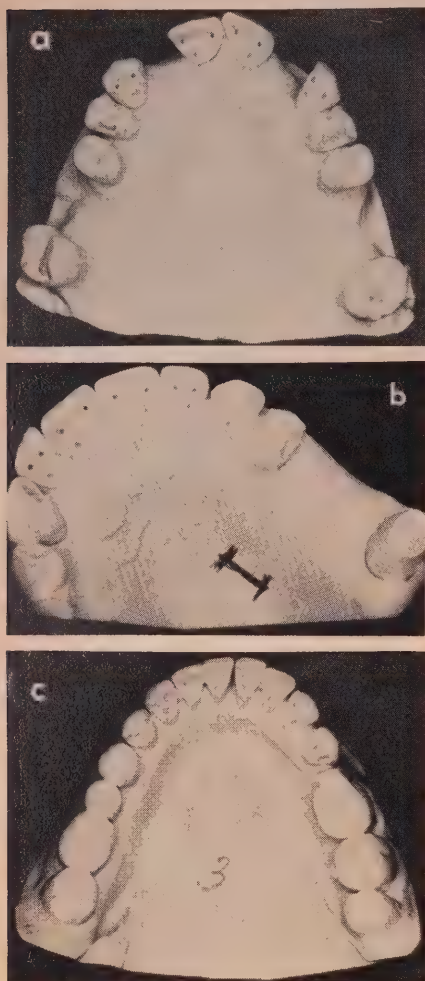


FIGURE 8 Models of multiple conservative preparations obtained from single full arch rubber base impressions.

mouth, posterior stops are not needed to confine the material. Occlusal stops which prevent possible tray impingements on strategically important teeth are desirable, but not essential.

Small perforations in the tray can be used in conjunction with rubber adhesive to secure the impression to the tray. A handle should be incorporated to facilitate placement and removal (Figure 6 and 7).

For multiple tooth restorations, particularly in fixed and removable partial denture abutments, the tray should extend over the whole dental arch. A model obtained from such an impression allows for easy transfer of interocclusal records onto an articulator. The unprepared teeth on the model provide centric stops (Figure 7).

Extension over part of the dental arch will suffice if sound teeth, both mesial and distal to the prepared teeth, have been included in the impression in order to provide occlusal holds.

The more teeth included in the impression, the simpler is the process of articulation, particularly when the terminal tooth in the quadrant has been prepared.

An exception to this rule occurs when one employs the functionally generated path for establishing occlusion, in which case the number of teeth included in the impression beyond those which have been prepared is significant only as a guide to securing proper contact and contour but not for occlusion.

Stock perforated D. P. metal trays, though never as good as custom-built trays, are useful for occasional repeated impressions when a discrepancy occurs in part of an original impression. Since these trays cannot be contoured to extend around the arch, they can be used only for a limited number of tooth preparations that are roughly in line with each other (Figure 2).

Under extenuating circumstances stock trays of any design can be employed. The rubber base impression material in its doughy state is sufficiently heavy to be confined over the structures to be reproduced. But such use of the material is uneconomical. Also, the impressions obtained are not as consistently good as those obtained when using a custom-built tray.

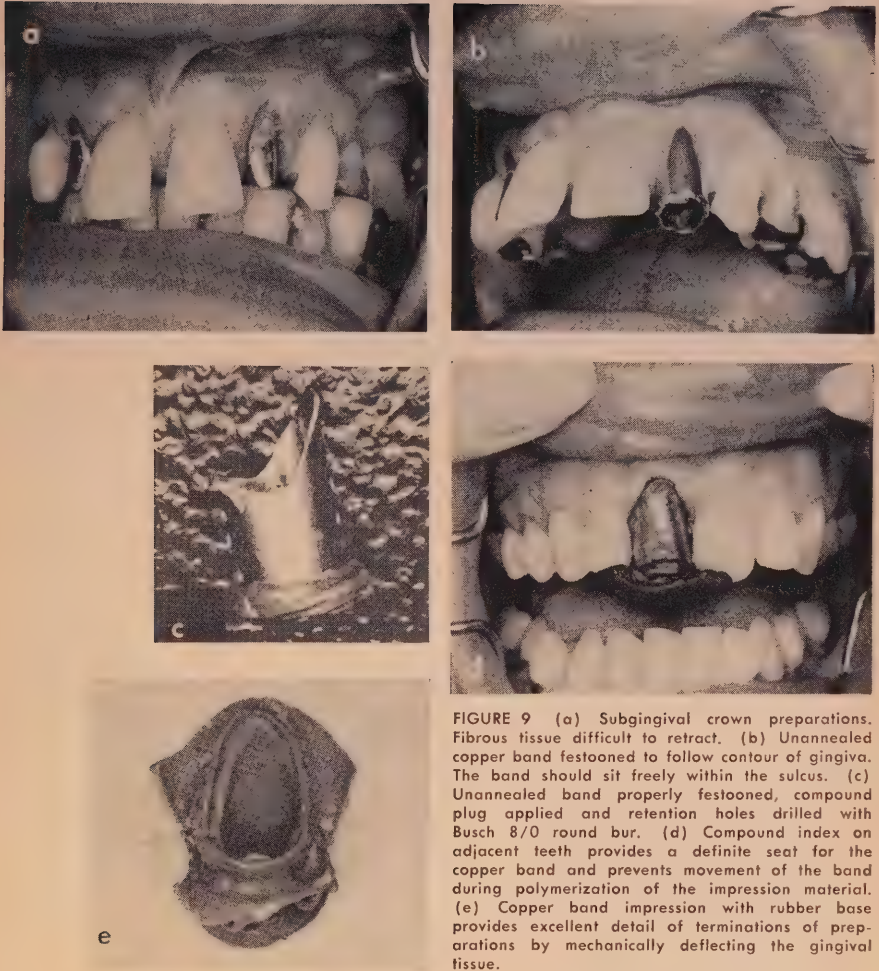


FIGURE 9 (a) Subgingival crown preparations. Fibrous tissue difficult to retract. (b) Unannealed copper band festooned to follow contour of gingiva. The band should sit freely within the sulcus. (c) Unannealed band properly festooned, compound plug applied and retention holes drilled with Busch 8/0 round bur. (d) Compound index on adjacent teeth provides a definite seat for the copper band and prevents movement of the band during polymerization of the impression material. (e) Copper band impression with rubber base provides excellent detail of terminations of preparations by mechanically deflecting the gingival tissue.

#### PREPARATION OF THE PATIENT AND LOCAL ENVIRONMENT

Every successful clinical procedure in restorative dentistry is preceded by the establishment of a conducive environment or field of operation.

The use of the rubber dam and clamps is not always feasible or desirable to iso-

late a field of operation. However, the dentist should strive for similar objectives when working without these devices. Dryness, good visibility, accessibility through deflection of lips, tongue and cheek, and an unobliterated approach to the gingival margins are important prerequisites to effective impression taking with the tray technique. This can be accomplished in

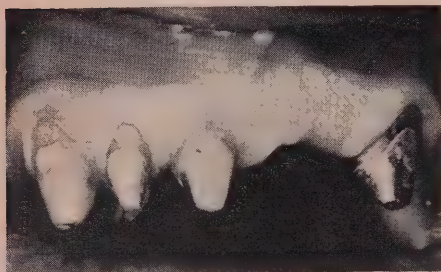


FIGURE 10 Proper retraction demonstrated by blanching of the gingiva. Composite of mechanical deflection and vasoconstriction.

the great majority of cases. Alternative techniques are also available where these requirements are unobtainable (Figure 9).

Premedication with one or two 15 mg. tablets of propantheline bromide (*Pro-Banthine*),<sup>4</sup> an antispasmodic drug which inhibits salivary secretions, twenty minutes prior to the appointment, reduces salivary secretion and inhibits the gag reflex. A saliva ejector-mouth mirror-light-reflector-tongue guard combination like the *Svedopter* (Sveda Dental Indus-

tries) connected to a rapid evacuator or surgical suction apparatus acts both as a tongue deflector and a saliva ejector. Various mechanical devices are available which can be used in conjunction with cotton rolls to deflect the lips and cheeks and control the seepage of saliva over the prepared teeth.<sup>5</sup>

Good local anaesthesia is mandatory for hypersensitive patients in whom the smallest stimulus will evoke a movement of the head and an excessive secretion of saliva. The approach to areas of difficult access requires the uninterrupted concentration and visual focussing on the part of the dentist. This is only possible through proper preparation of the patient.

#### GINGIVAL RETRACTION

Gingival retraction is achieved by introducing fibres impregnated with 8 per cent racemic adrenaline into the gingival sulcus. (Figures 10 and 11). It is a composite of mechanical soft tissue deflection and chemical vasoconstriction. It differs from recession in that it is perfectly reversible. The adrenaline through vasoconstriction produces a shrinkage and dehydration of the gingival tissue, clinically demonstrated by a blanching of the area and a mummification of the gingival crest. In order for the drug to be effective it must remain in intimate contact with the gingiva for approximately five minutes in an undiluted form. The presence of moisture in the sulcus either before, during or after introduction of the chemically impregnated fibre will cause dilution to varying degrees and consequently reduce or destroy the effectiveness of the adrenaline.

The mechanical deflection is obtained by progressively and actively wedging the fibre between the elastic intercrevicular wall and the surface of the crown or root (Figure 10). A paddle-shaped plastic instrument with a thin smooth blade should be used for this procedure.<sup>6</sup> The chemical mummification enhances the mechanical deflection. The number of layers

FIGURE 11 When retraction is successful, the finish line plus some extra portion of tooth impression can be clearly visualized in the impression.





of fibre required depends upon the depth of the sulcus. These layers should be wound regularly upon each other (for crowns) or folded evenly over each other (for inlays) so that a minimum of tissue disturbance results from the removal of the fibre.

Upon removal of the fibre, the soft tissue should be standing away from the tooth, clearly exposing the gingival margin. Improvements in the gingival aspect of the preparation can be made at this time.<sup>6</sup> Narrow fibres are available for shallow gingival sulci.

An absolute prerequisite for proper retraction is that the gingival tissue be healthy and intact. In the presence of inflammation or laceration, the slightest displacement created during the teasing of the fibre in or out of the sulcus will cause an extravasation of blood and exudate into the crevice. When this occurs

one can re-introduce a fibre and pack a pellet saturated with 8 per cent racemic adrenaline over it. Similarly chemically impregnated pellets are commercially available (*Gingipak*, Surgident).

Some dentists recommend the use of the formal dehyde derivative negatol (*Negatan*,<sup>7</sup> Lilly) to control seepage. Others employ a high frequency electro-coagulator (*Hyphrecator*) to coagulate the vessels.<sup>8</sup> The treatment of choice when these methods fail is the insertion of a periodontal pack for a few days. Such a pack promotes healing and causes slow mechanical deflection, facilitating retraction at a subsequent appointment.

When the gingival sulcus is too deep, the retracted gingival tissue often tends to collapse before the impression material is fully polymerized. Such tissue must be looked upon as being pathological and gingivectomy is usually indicated. Pre-treatment of the periodontal tissues is a necessary prerequisite to good restorative procedures.<sup>9</sup>

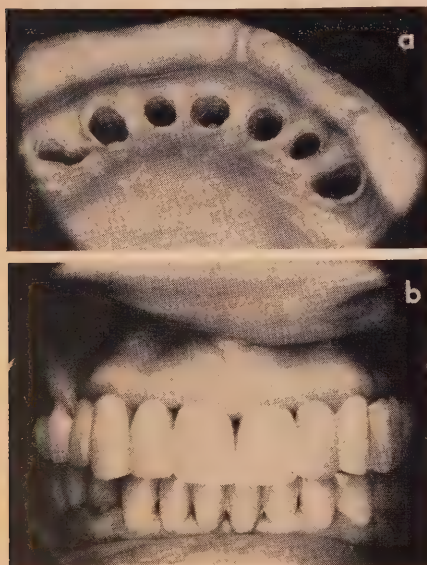
The need for tissue retraction can be eliminated by properly timing the periodontal procedures with the restorative treatment. Tooth preparations can be made eight to ten weeks after periodontal surgery (Figures 12a and b).

By this time epithelialization has taken place but the gingival tissue has not yet fully matured. Margins are carefully terminated  $\frac{1}{2}$  mm. coronal to the gingiva. After the soft tissue matures, a shallow sulcus develops and the supragingival margin becomes a subgingival one.

If the dentist defers the restorative treatment until three months after the gingivectomy he will usually find that the gingival tissue has matured sufficiently to receive a single fibre of chemically impregnated thread within its sulcus. More than two fibres are rarely needed when the soft tissues are in a state of good health.

Other problems may require an alternative solution. For instance, fibrous pads of tissue distal to terminal teeth in the arch are often difficult to retract. Unfavourable access to these areas common-

FIGURE 12 (a) An impression, without retraction, of supragingival preparations made eight weeks after gingivectomy. (b) Final restoration three months later. Matured gingival tissue covers collars of gold which were originally supragingival.





ly results in tissue damage during tooth preparation. It is also more difficult to maintain dryness in this area. Vasoconstrictors are contra-indicated for cardiac patients. Not all conditions can be ideally pre-treated. As an alternative to retraction, mechanical deflection with a copper band technique is indicated for these patients (Figure 9). If a rubber base impression material is used in the band and the technique has been properly executed, models can be obtained which are perfectly interchangeable with those obtained from a tray impression with retraction.

Retraction becomes progressively more challenging as the portion of the preparation terminated below the crest of the gingiva increases in size. Fortunately those teeth where the tissues are most difficult to retract (full crown preparations on isolated teeth and terminal teeth) lend themselves best to the copper band technique. One should avoid copper bands for impressions of teeth prepared for inlays situated between two adjacent teeth. Impingement on the contact point of adjacent teeth during withdrawal of the band may result in a distortion of the band.

When doing multiple restorations care should be exercised not to use 8 per cent racemic adrenaline for more than four teeth in each impression. Too much adrenaline absorbed into the bloodstream may result in severe palpitations, elevation of blood pressure and possible fainting.

### *Clinical Procedure*

A suitable custom-built acrylic tray is prefabricated on a study model. It is tried in the mouth for adaptation and extension. Impingements are relieved by grinding and perforations are prepared with a bur to retain the impression material. The inner surface is coated with a thin layer of rubber adhesive. Propantheline bromide is administered to the patient if gagging or hyper-secretion of saliva is anticipated. Tooth preparations are made, but cervical finish lines are not completed at this time.

The local environment is carefully isolated with cotton rolls and a dry field obtained with a rapid evacuator. The gingival tissue is deflected, where necessary, with the chemically impregnated fibre. The fibre is carefully removed after blanching has been observed for several minutes. Margins which extend subgingivally may now be terminated with little or no injury to the periodontium. The surface of the tooth can now be carefully checked for remnants of calculus which may have been missed during earlier prophylaxis. These are removed and the retraction fibre is reintroduced into the sulcus.

Cement linings are coated with a layer of copal-chlorobutanol varnish (*Copalite*) followed by a cavity lubricant such as Kerr *Microfilm*. These applications prevent adhesion of the impression material to the porosities in the cement. Pinholes and subpulpal extensions are also treated in this way. Embrasures between unprepared teeth are blocked out by a thick mix of periodontal pack. The surface of the pack is coated with a lubricant.

Sufficient heavy-bodied rubber impression material is mixed by the dental assistant. When it loses its tackiness it is loaded into the tray. It is built up in the region of the preparations to act as a plunger.

A small quantity of light-bodied material is mixed by the dentist. Under normal atmospheric conditions the mixing of heavy-bodied material precedes that of the light-bodied material by fifteen seconds.

The retraction fibres are carefully unwound and removed from the gingival sulcus with college pliers. A trough should appear in which the cervical finish lines should be clearly seen. The light-bodied material is immediately spun into pinholes, grooves and boxes with the trimmed spiral lentulo rotating at slow speeds.<sup>2,3</sup> Using a plastic instrument some additional light-bodied material is deposited into and over the prepared teeth and into the sulcus. A jet of cool air is now directed over this material to tease it to

the base of the trough without disturbing the soft tissue. The material should run freely at this time.

The tray loaded with the doughy heavy-bodied material is then inserted into the mouth. As it is worked into place it exerts a compressive force on the light-bodied material, driving it into contact with the surfaces to be reproduced. This force is sufficient to displace fluid that may have accidentally oozed into the sulcus by this time. Once properly positioned the tray is supported with light finger pressure until the materials on both mixing pads are set.<sup>10</sup> When oleic acid is used to retard the setting process one can begin mixing the heavy-bodied material at the same time as or after mixing of the light-bodied material has been started.

The impression should be removed slowly along the path of insertion of the restorations<sup>11</sup> and put aside for twenty minutes to allow for recovery of possible distortions created in the removal of the impression from undercut areas.

Models of the prepared teeth only are poured in diestone.<sup>11</sup> Voids are less common when the impression is first coated with a surface tension reducing agent such as Kerr *Debubbler*.<sup>10</sup> Impressions and models are separated when the diestone has thoroughly set. Separation is facilitated by wetting the impression.<sup>8</sup> After a twenty-minute recovery period a second model is poured, this time including the whole of the impression.<sup>10</sup> The first casting provides the master dies, the second the working model (Figure 9e).

If metallic dies are preferred, rubber base impressions can be easily silver plated.<sup>12</sup>

#### COPPER BAND TECHNIQUE

The use of rubber base impression material in a copper band is indicated where a tray impression with retraction has been attempted and failed or where the use of vasoconstrictors is contra-indicated as with cardiac patients. Failure with retraction may be due to inflammation, tissue laceration or heavy accumulations of

fibrous tissue resulting in an abnormally deep gingival sulcus (Figure 9).

Since the copper band technique provides only an impression of the prepared tooth unrelated to the adjacent teeth, it should be resorted to only after a reasonable attempt at a tray impression has been made.

Often the tray impression will capture all details except the exaggerated subgingival margin. The copper band, by mechanically deflecting the gingival tissue, enables the dentist to reproduce such a margin with relative ease (Figure 9).

The advantage of employing rubber base impression material in the band, rather than other conventional materials such as modelling compound or wax, is that the models poured from such impressions are identical to those obtained from a tray impression. There is only one difference: models obtained by means of the former possess more detail at the gingival aspect. A casting made on one type of model is interchangeable with the other.

The copper band technique is indicated primarily for full coverage as retraction for most inlay preparations offers little challenge for the dentist. When the copper band technique is occasionally used for inlays, care should be exercised not to distort the band upon its withdrawal as it makes contact with the adjacent teeth. Even when used for full crowns one must carefully consider the position of the contact points of adjacent teeth relative to the gingival margins of the prepared tooth. If inadequate space exists between the contact points of adjacent teeth to allow for unobstructed insertion and removal of the copper band, one should reduce and reshape these contact points.

#### *Clinical Procedure*

An unannealed copper band (Figure 9) is selected whose diameter is slightly larger than that of the cervical diameter of the prepared tooth. The band should be rigid, as an unyielding vehicle and ma-

trix is always desirable when dealing with elastic impression materials. The band is trimmed and festooned to follow the contour of the cervical finish line of the preparation. When placed over the prepared tooth and pushed apically it should enter the gingival sulcus, deflect the gingival tissue away from the termination of the preparation and stop at the epithelial attachment.

Minute retention holes are punched around the circumference of the band with an 8/0 Busch round bur. Several slots are cut around the occlusal periphery of the band. The divisions produced by these cuts are folded inwardly at ninety degrees to the band surface. A modelling compound or acrylic resin plug is placed over this end and is retained by the folds. This plug provides rigidity as well as a grip for the withdrawal of the band from the tooth. If adjacent teeth are present this compound plug is extended over the occlusal and incisal aspects of these teeth, as the band is held apically in its proper position against the epithelial attachment. This compound extension provides an index or guide for reseating the band when the impression is being taken and for stabilizing it while the impression material is setting (Figure 9d).

A small amount of heavy-bodied impression material is mixed and loaded into the band. The band is put aside until the material in it assumes a doughy mouldable state. At this point it is compressed over the preparation until the compound index is engaged on the adjacent tooth or teeth. If the band has been properly contoured the impression material will be trapped between the surface of the copper band, the epithelial attachment and the surface of the tooth; and excess material will cease to escape from the gingival sulcus once the band is fully seated. The pressure of the band and the impression material upon the epithelial attachment and the inner wall of the gingival sulcus produces a blanching of the gingival tissue. Excess material trapped under pressure within the band escapes through the minute retention holes in the

form of fingerlike projections. It is held in position with light finger pressure until the material has set on the mixing pad.

Where a compound index cannot be employed one must be careful not to move the band while the material is setting. Once set the impression is slowly withdrawn by engaging the compound plug. The plug serves to confine the impression material as well as to facilitate withdrawal of the band without distortion. The index permits proper seating of the band, provides stabilization while the material is setting and prevents tissue injury through overseating of the band. If the impression is to be silver plated acrylic resin must be used instead of compound.<sup>13</sup>

An accurate impression of a subgingival preparation is thereby achieved.

## DISCUSSION

The advantages of the modified rubber base impression technique become apparent when obtaining impressions of multiple pin preparations. The spinning of light-bodied material to the base of each pin hole with the trimmed spiral lentulo eliminates the need for plastic pins or nylon fibres.<sup>2</sup> The model obtained is an exact reproduction of the preparation, and not an approximate one. Also, more than one model can be obtained from each impression with very little or no loss of accuracy (Figures 4 and 8a).

The clinical procedures must of course be carried out with extreme care to achieve the desired results. Occasionally the rubber base material may fail to withdraw from a pinhole. Such tearing of the impression may be caused by:

1. Insufficient taper of the pin preparation or an actual undercut within it usually just below the dentino-enamel junction.
2. Air trapped in the impression of the pin due to insufficient spinning of the light-bodied material or too heavy a consistency of light-bodied material, or due to insufficient compression with the heavy-bodied material.

3. Irregularities in the walls of the pin preparation caused by cross cut fissure burrs.

4. Insufficient lubrication of the pin hole prior to impression taking.

5. Withdrawing the impression with a quick snap rather than teasing it off slowly, or withdrawing it in a direction which is not parallel to the path insertion of the pattern.

6. Withdrawing the impression before the material was fully set.

The doughy consistency of the tray material allows the dentist to mould it with his fingers and manually plunge a cone-shaped mass into an interproximal area when oozing persists prior to seating the tray. The additional compressive force may be all that is needed to capture a subgingival margin that might otherwise be missed.

Techniques have been described whereby preliminary impressions or unsatisfactory final impressions could be relined with light-bodied material to provide more detail. Relining procedures are hazardous as the rubber in the preliminary impression can be distorted from the compression exerted by the relining material, and recovery may not take place until the impression has been removed from the mouth.

The time gained by not using the syringe coupled with the retarding of the set of the light-bodied material with oleic acid greatly simplifies the taking of multiple tooth impressions.

The simplicity with which failure can be overcome by employing a copper band or a stock perforated tray to retake an impression of one isolated area eliminates unnecessary apprehension for the dentist.

## CONCLUSION

A technique has been described which is simple, accurate and predictable. It is compatible with the health of the periodontal tissues. It involves a minimum of armamentarium and provides more versatility for some proven dental materials.

## RÉSUMÉ

*L'auteur décrit une nouvelle technique pour la prise d'empreinte à l'aide d'un matériel à base de caoutchouc. Pour ce faire, il utilise un double procédé: il porte dans la bouche un matériel épais déposé sur un porte-empreinte en acrylique confectionné de la façon ordinaire, après avoir placé un matériel fluide dans ou sur les dents piles avec une seringue.*

*Le but de ce double procédé est d'obtenir à l'aide du matériel épais une empreinte de toute la région couverte par le porte-empreinte, tandis que le matériel fluide reproduit des détails qu'on ne peut enregistrer au cours d'une seule empreinte.*

*On confectionne sur un modèle d'étude un porte-empreinte en acrylique de la façon ordinaire. La face intérieure du porte-empreinte est enduite d'une couche mince de colle à caoutchouc. Les dents sont taillées. Si nécessaire, la gencive est refoulée, après avoir isolé le champ opératoire, pour terminer le meulage à la portion cervicale. Les parois de ciment sont enduites de vernis copal-chlorbutanol (Copalite) et ensuite d'un lubrifiant à cavité, comme le Kerr "Microfilm." On traite de la même façon les trous de pivots et les extensions sous la chambre pulpaire. On remplit d'un mélange épais de ciment à périodontie les espaces entre les dents intactes. La surface du ciment est enduite elle aussi de lubrifiant.*

*L'assistante prépare le matériel épais à base de caoutchouc et en charge le porte-empreinte. Le dentiste, durant ce temps, prépare le matériel fluide. La préparation du matériel épais, dans des conditions atmosphériques normales, peut se faire dans environ 15 secondes.*

*On déroule avec soin et on enlève les fibres qui ont servi à refouler la gencive. On dépose le matériel fluide dans les trous à pivot, les sillons et les cavités à l'aide d'un lentulo à spirales taillé au besoin et actionné lentement. On dépose d'autre matériel fluide dans et sur les piles et dans la crevasse gingivale.*



On place alors dans la bouche le porte-empreinte contenant le matériel épais. Celui-ci exerce, quand il est mis en place, une pression sur le matériel fluide et le pousse en contact intime avec les surfaces qu'il faut reproduire exactement.

L'empreinte est retirée dans l'axe où les restaurations seront insérées et laissée à l'air libre durant 20 minutes pour que se replacent des déformations qui auraient pu être causées par des champfreins au cours de l'ablation de l'empreinte. On coule le modèle en diestone. Les empreintes en caoutchouc peuvent être facilement plaquées en argent, si on désire des catins en métal.

L'auteur décrit aussi une technique pour la prise d'empreinte avec du matériel à base de caoutchouc dans des douilles de cuivre, quand l'empreinte s'est retractsée ou a été manquée au cours d'une prise

d'empreinte avec un porte-empreinte ou quand l'emploi de vaso-constricteurs est contrindiqué chez des cardiaques.

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3465 Côte des Neiges

## Dental effects of water fluoridation in Brandon, Manitoba: second report

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Fluoridation of the municipal water supply of the City of Brandon was instigated on March 1, 1955. Sodium silicofluoride was added to the Brandon water supply in sufficient quantity to produce a level of one part fluoride to one million parts water.

The equipment used for adding the fluoride is accurate within plus or minus

five per cent. On a monthly basis the average dosage does not vary more than 5 per cent either way from the optimum of 1 part fluoride to 1 million parts water.

Daily tests are carried out at the point of application and a report is submitted to the Department of Health once a month. Confirmation tests are also carried out under the supervision of the chemist in charge of the Industrial Hygiene Laboratories.<sup>1</sup>

Arrangements were made with a local Brandon dentist to conduct prefluoridation and subsequent surveys. This has

This article is published simultaneously in the Canadian Journal of Public Health and the Journal of the Canadian Dental Association through arrangement between the authors and the editors.

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worked out satisfactorily, all seven surveys being carried out by the original examiner (W.R.H.). The first report, "Dental Effects of Water Fluoridation City of Brandon" was published in 1960.<sup>2</sup> The results at that time showed a substantial inhibition of dental caries activity after five years' use of fluoridated community water. The present report describes dental caries patterns in the same population two years later, after seven years' fluoridation. In this report the pre-fluoridation data of 1955 are compared to those of 1960 and 1962, with the purpose of showing the beneficial effects upon caries prevalence after seven years.

#### METHODOLOGY OF SURVEY

The first or pre-fluoridation survey was conducted in 1955, with subsequent surveys in 1956, 1957, 1958, 1960 and 1962. The surveys were planned by the provincial director dental services, the medical director of the Brandon Health Unit and the examining dentist involved.

The eligible children were examined by the same examiner each year, and under conditions which were as similar as possible. The same type of explorer and the same lighting were used throughout. A carious lesion was defined as one in which the explorer would resist direct withdrawal or where softness could be felt.

A chart depicting all the coronal surfaces of both deciduous and permanent teeth was used. This permitted the recording of DMF (decayed, missing, filled) permanent teeth, and df (decayed, filled) deciduous teeth, as well as the necessary detail for recording affected tooth surfaces. A record was kept of all erupted permanent teeth.

Oral hygiene was recorded as good, fair, or poor; any observable mottling was also recorded.

The indices used to measure caries activity are (a) percentage of children having caries-free teeth (permanent and deciduous), (b) tooth mortality (permanent

teeth), (c) mean DMF (permanent teeth), and (d) mean df (deciduous teeth). Data are presented for three specific age groups — 6-8, 9-11 and 12-14—in a similar manner to the Brantford-Stratford-Sarnia caries fluoridation study.<sup>3</sup>

Statistics are given separately for the first permanent molars. These are the teeth which have so far been most affected by fluoride, reaching the state of complete calcification in the 6-8 age group during the period being reported upon. They are also the most caries-susceptible teeth of the permanent dentition. The upper permanent incisors are reported on as a special group as they demonstrate in a dramatic manner the caries-preventive effect of fluoride, and also give a picture of the topical effect of fluoride on the enamel of teeth which were wholly or partially calcified prior to the initiation of fluoridation.

Findings on permanent upper incisors and deciduous teeth are reported for the youngest and middle age groups.

#### SELECTION OF CHILDREN FOR EXAMINATION

The age groups selected were 6-8, 9-11 and 12-14. The total children eligible for inclusion in the surveys was determined on the basis of "continuous" residence, "continuous" residence being defined as including absence since birth of six weeks or less. Any child continually absent from the community for six weeks was automatically eliminated. Therefore, the report compares the caries activity of a group of Brandon children who have used a fluoridated water supply continuously as of March 1955 to March 1962 with a group who prior to March 1955 used fluoride-free water. Residence eligibility was determined from information supplied by parents with the co-operation of school teachers and the health unit staff.

Since all eligible children exclusive of absentees, were examined, no sampling procedures were required. This eliminates any sampling error.

TABLE 1 Total children eligible and total examined by age group, Brandon, 1955, 1960 and 1962.

|                 | Age group | 1955 | 1960 | 1962 |
|-----------------|-----------|------|------|------|
| Total eligible  | 6 - 8     | 494  | 443  | 421  |
| Number examined |           | 481  | 432  | 412  |
| Total eligible  | 9 - 11    | 314  | 491  | 444  |
| Number examined |           | 305  | 473  | 431  |
| Total eligible  | 12 - 14   | 213  | 342  | 372  |
| Number examined |           | 208  | 331  | 369  |

Table 1 shows the total number eligible for examination, and the number examined in 1955, 1960 and 1962.

#### FINDINGS

The data in this report are presented to show changes in caries prevalence which occurred in Brandon during a seven year period, 1955 to 1962. Data contained in the 1960 report<sup>1</sup> are included so as to show the extent of change from 1960 to 1962. Since it takes about twelve years from birth before the full value of fluoridation may be expected in relation to caries resistance in permanent teeth, a report after seven years will only give a partial picture of what may eventually occur. A comparison of caries prevalence (permanent teeth) in the 6-8 age group prior to fluoridation and after seven years' fluoridation could reveal a significant trend. But even this age group has not yet received the full benefit of fluoride, the present eight-year-olds having attained the age of one year before fluoridation was begun. A significant improvement in caries experience may also be expected in the 9-11 age group.

In general, it may be stated that there has been a downward trend in caries prevalence in all age groups. This downward trend has been dramatic in the 6-8 age group. It is also pronounced in the 9-11 age group.

For the years being reported, namely 1955 (pre-fluoridation), 1960 and 1962, the data are presented in respect to: (1) all

permanent teeth, (2) first permanent molars, (3) permanent upper incisors and (4) deciduous teeth.

The 1960 report described a significant and even dramatic increase in the percentage of caries-free children in the 6-8 age group. Now, after seven years' fluoridation, the findings are beginning to show what may be expected in any community where the water supply contains 1 part per million fluoride (Table 2).

It will be noted in the 6-8 age group that the percentage of children caries-free (permanent teeth) has increased from 32 to 74 per cent over a period of seven years, and this group has still to receive the full benefit of fluoridation. In other words, three out of every four children are caries-free (permanent teeth) in this age group.

In the 9-11 age group, a really significant increase in caries-free children is now shown—an increase from 9 per cent (1955) to 32 per cent (1962), or one out of

TABLE 2 Percentage of children having caries-free permanent teeth.

| Age group | Year | Caries-free |
|-----------|------|-------------|
| 6 - 8     | 1955 | 32.41       |
|           | 1960 | 64.35       |
|           | 1962 | 74.51       |
| 9 - 11    | 1955 | 9.50        |
|           | 1960 | 17.12       |
|           | 1962 | 32.71       |
| 12 - 14   | 1955 | 4.80        |
|           | 1960 | 5.13        |
|           | 1962 | 6.50        |

TABLE 3 Percentage of children having caries-free permanent upper incisors.

| Age group | Year | Per cent caries-free |
|-----------|------|----------------------|
| 9 - 11    | 1955 | 71.47                |
|           | 1960 | 91.54                |
|           | 1962 | 96.75                |
| 12 - 14   | 1955 | 54.34                |
|           | 1960 | 67.67                |
|           | 1962 | 73.17                |

TABLE 4 Percentage of children having caries-free first permanent molars.

| Age group | Year | Per cent caries-free 1st permanent molars |
|-----------|------|-------------------------------------------|
| 6 - 8     | 1955 | 32.83                                     |
|           | 1960 | 64.35                                     |
|           | 1962 | 74.99                                     |
| 9 - 11    | 1955 | 9.50                                      |
|           | 1960 | 17.97                                     |
|           | 1962 | 32.71                                     |
| 12 - 14   | 1955 | 6.25                                      |
|           | 1960 | 6.04                                      |
|           | 1962 | 7.04                                      |

every three children caries-free (permanent teeth).

Fluoridation in Brandon has not been in use long enough to see any extensive change in 12-14 age group, although a trend is developing.

Table 3 points out the very marked resistance which has developed in the upper permanent incisor teeth to caries activity. There is a highly significant improvement in both age groups 9-11 and 12-14 after seven years of fluoridation. Most of the enamel of the upper incisors in the 12-14 years age group is presumably calcified prior to fluoridation. Therefore, the findings suggest that water containing 1 ppm fluoride has a caries inhibiting effect on enamel formed before fluoridation began.

This confirms similar findings reported elsewhere that fluoridated water will significantly inhibit caries activity in enamel formed prior to fluoridation. It is presumed to be due to a topical effect.

The first permanent molar is the most caries-susceptible tooth of the permanent dentition. It is for this reason that the dental caries experience in this tooth is shown separately (Table 4).

Actually, practically all tooth decay present in the permanent dentition is found in the first permanent molar of the 6-8 age group; approximately three-quarters of decay present in the 9-11 age group, and fifty to sixty per cent present in the 12-14 age group occurs in the first molar teeth. Therefore, a very close relationship is noted between the findings in regard to the first permanent molars and the percentage children caries-free in all permanent teeth.

There is a markedly significant improvement in the percentage children caries-free in the 6-8 and 9-11 age groups and a slight trend is developing in the 12-14 age group.

The dental caries experience of Brandon children represented by the three age groups is expressed as the mean number of decayed, missing and filled permanent teeth per child (Table 5). There is a very marked reduction in caries prevalence in the 6-8 and 9-11 age groups, plus a significant reduction in the 12-14 group (Table 5).

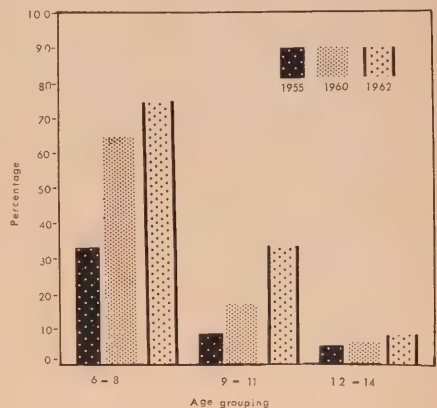


FIGURE 1 Percentage of Brandon, Manitoba, native children with permanent teeth caries-free, 1955, 1960 and 1962.



TABLE 5 Mean DMF (decayed, missing and filled) permanent teeth per child.

| Age group | Year | Mean DMF<br>teeth per child |
|-----------|------|-----------------------------|
| 6-8       | 1955 | 1.95                        |
|           | 1960 | 0.77                        |
|           | 1962 | 0.51                        |
| 9-11      | 1955 | 4.57                        |
|           | 1960 | 2.87                        |
|           | 1962 | 1.95                        |
| 12-14     | 1955 | 7.39                        |
|           | 1960 | 5.80                        |
|           | 1962 | 4.77                        |

TABLE 6 Mean DMF (decayed, missing and filled) permanent upper incisors per child.

| Age group | Year | Mean DMF<br>upper incisors |
|-----------|------|----------------------------|
| 9-11      | 1955 | 0.69                       |
|           | 1960 | 0.17                       |
|           | 1962 | 0.06                       |
| 12-14     | 1955 | 1.14                       |
|           | 1960 | 0.86                       |
|           | 1962 | 0.51                       |

In 1955 in the 6-8 age group it was found that there were approximately two teeth per child affected by tooth decay. By 1962 this declined to one-half tooth per child. In the 9-11 age group, 4½ teeth per child declined to approximately two per child, and in the 12-14 age group, over seven teeth per child declined to less than five per child.

These findings leave no doubt about the very marked beneficial effect on caries prevalence in the permanent dentition that occurs when water, with the fluoride content adjusted to 1 ppm is consumed by continuously resident children and even by children in the 6-8 age group who have not, as yet, received the full benefit of fluoridation.

The findings in Table 6 on mean DMF permanent upper incisors strongly support the two-way caries inhibiting action of

fluoride prior to calcification and eruption as well as following eruption.

There is a significant reduction in the mean DMF first permanent molars in the 6-8 and 9-11 age groups (Table 7). It will be noted that in the 9-11 age group, there was some reduction in DMF from 1955 to 1960, but by 1962 this reduction had become more marked.

Missing or irreparable permanent teeth per child were first recorded in 1960. Now, in 1962, there is a significant improvement in tooth mortality in both the 6-8 and 9-11 age groups, with a dramatic improvement in the 6-8 age group being noted (Table 8).

Table 9 reveals a significant increase in caries-free children (deciduous dentition). An increase from approximately 5½ per

TABLE 7 Mean DMF (decayed, missing and filled) first permanent molars per child.

| Age group | Year | Mean DMF<br>1st permanent<br>molar |
|-----------|------|------------------------------------|
| 6-8       | 1955 | 1.91                               |
|           | 1960 | 0.79                               |
|           | 1962 | 0.48                               |
| 9-11      | 1955 | 3.18                               |
|           | 1960 | 2.40                               |
|           | 1962 | 1.85                               |
| 12-14     | 1955 | 3.20                               |
|           | 1960 | 3.33                               |
|           | 1962 | 3.13                               |

TABLE 8 Mean tooth mortality (missing or irreparable) permanent teeth per 100 children.

| Age group | Year | Teeth lost or to be<br>lost per 100 children |
|-----------|------|----------------------------------------------|
| 6-8       | 1955 | 14.75                                        |
|           | 1960 | 10.87                                        |
|           | 1962 | 0.97                                         |
| 9-11      | 1955 | 52.45                                        |
|           | 1960 | 40.80                                        |
|           | 1962 | 31.32                                        |
| 12-14     | 1955 | 103.36                                       |
|           | 1960 | 109.36                                       |
|           | 1962 | 85.58                                        |

TABLE 9 Percentage of children with caries-free deciduous teeth.

| Age group | Year | Per cent children caries-free |
|-----------|------|-------------------------------|
| 6-8       | 1955 | 5.61                          |
|           | 1960 | 13.42                         |
|           | 1962 | 19.17                         |

TABLE 10 Mean df (decayed and filled) deciduous teeth per child.

| Age group | Year | Mean df deciduous teeth per child |
|-----------|------|-----------------------------------|
| 6-8       | 1955 | 6.50                              |
|           | 1960 | 4.85                              |
|           | 1962 | 3.86                              |

cent to a little over 19 per cent of children caries-free in the deciduous teeth is indeed gratifying.

A precise measure of dental caries experience in deciduous teeth is difficult, due to the inability of determining whether a tooth has been lost as result of natural exfoliation or tooth decay. Nevertheless, by measuring caries experience in terms of decayed and filled deciduous teeth, it is possible to present a reasonably reliable index.

After seven years' fluoridation in Brandon, age for age there are significantly fewer deciduous teeth per child being attacked by tooth decay than prior to fluoridating (Table 10).

#### MOTTLING

No mottling that could be ascribed to fluoride was detectable. Certain minor enamel opacities which are found in both fluoride and non-fluoride areas were reported. These opacities have been noted in other surveys involving many thousands of examinations of children which are regularly conducted by the Dental Services of the Manitoba Health Depart-

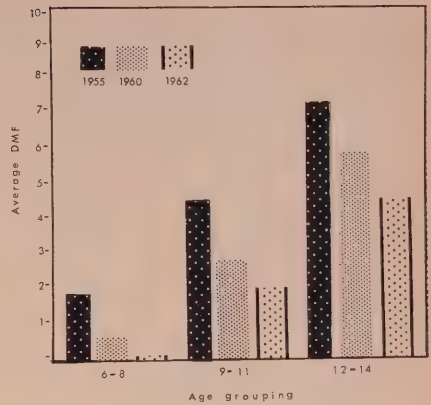


FIGURE 2 Average DMF permanent teeth per child in Brandon, Manitoba, native children, 1955, 1960 and 1962.

ment. These surveys cover many different areas of the province.

#### CONCLUSIONS

The data in this report are presented with the purpose of comparing the dental caries prevalence of Brandon children, in the designated age groups, prior to fluoridation in 1955, with the caries prevalence of the same age groups (continuous residency) after seven years' fluoridation in 1962. It will be noted that a markedly significant reduction in dental caries prevalence has occurred in the 6-8 and 9-11 age groups. A significant reduction could not as yet be expected in the 12-14 age group although an improvement is certainly shown.

Another survey will probably be carried out in 1966 when the maximum benefit in dental caries prevalence, brought about by the consumption of water with the fluoride content adjusted to 1 ppm, should be evident in the 6-8 and 9-11 age groups.

Dental caries is recognized as man's most widespread chronic disease. Practically all Canadians experience dental caries or periodontal disease during a life

time. No social stratum or age group is immune. A decayed tooth never heals by itself, by prescription or advice; in other words there is no natural repair. Dental caries, malocclusion, and periodontal disease—the triad of dental ills—are major public health problems, and conventional approaches based on treatment alone are, at the best, temporary expedients. The great hope for improved dental health lies in prevention and the first priority, among various preventive procedures, should be given to controlled fluoridation if the water supply is deficient.

In Manitoba, the child of seven has an average of 6 deciduous teeth and 1.5 permanent teeth which have been attacked by decay. By the age of thirteen, the child has an average of 7.3 permanent teeth which have been attacked by decay. Over 50 per cent of the children grow up with some type of malocclusion. Premature loss of deciduous and permanent teeth contributes in high degree to this unfortunate situation.<sup>4</sup> These data point to the great need for a preventive measure that is effective, safe, inexpensive, convenient and automatic. Fluoridation of community water supplies meets these requirements. Certainly the findings presented in this report leave no doubt as to why it is recommended that all communities with a communal water supply adopt fluoridation.

Fluoridation is an absolute necessity in the reduction of tooth decay and is certainly a major answer to the problem of this disease. It is not generally realized that one of the most costly items in the

health budget of the average Canadian is the care of oral diseases and disabilities.<sup>5</sup> Fluoridation reduces the prevalence of tooth decay to a point where it can be economically controlled and practically eliminated amongst those who practise sound eating habits and good oral hygiene.

#### RÉSUMÉ

*Les statistiques contenues dans ce rapport ont pour but de comparer l'incidence de la carie dentaire chez les enfants de Brandon, Manitoba, en 1962, sept ans après que cette ville eut commencé à fluoriser son eau, avec celle qui existait en 1955 avant que l'eau ne soit fluorée. Une diminution notable de l'incidence de la carie s'est produite chez les enfants de 6 à 8 ans et chez ceux de 9 à 11 ans. On ne pouvait pas s'attendre, après une aussi brève période de temps, à une réduction aussi remarquable chez les enfants de 12 à 14 ans. Cependant on note chez eux une amélioration évidente.*

*Un autre relevé sera probablement fait en 1966.*

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*C. D. A. Councils, Committees and Sections* • Over two hundred dentists participate voluntarily in the almost twenty councils and committees of the Canadian Dental Association. Others are active in the Association's four sections: Oral Surgery, Orthodontics, Periodontics and Dentistry for Children.

## **Comparison of group practice in chartered accountancy and dentistry**

*J. E. McIntosh, B.Com., F.C.A., Vancouver, British Columbia*

Group dental practice is defined in a release of the Canadian Dental Association as, "The application of dental service by a number of dentists working in systematic association with the joint use of equipment and technical personnel and with centralized administration and financial organization."<sup>1</sup> The aforesaid release goes on to state, "This definition excludes the many instances of dentists sharing some facilities and perhaps some personnel but in reality conducting individual practices." Thus, the definition does not include a situation where a number of dentists have grouped themselves together to share office space, office nurses, equipment and office overhead and where each of them retains the gross fees which he produces.

It would be presumptuous of me to deal with the advantages and disadvantages of group practice insofar as the practice of dentistry itself is concerned because I am not an expert in your profession and I am, therefore, unable to assess the degree of competency of practice which may be developed by a group operating under the precepts of the definition of group practice, which I have just quoted, or the benefits which may be gained therefrom by the public. I understand that there is a growing interest in this subject of group practice in dentistry as demonstrated by this very session, as well as by releases of your Association and articles in your journals. I further understand that group practice is not prevalent in either Canada or the United States and that, therefore, to most of you there is no practical experience close at hand by which to judge the advantages and disadvantages of it.

Thus, it may be that many of you with adventurous spirits who are seriously considering this subject from the point of view of personally embarking onto the sea of group practice are doing so with some diffidence and trepidation. This is natural because all of us are apt to resist change and to be wary of the unknown.

Consequently, I have thought that it may be possible to dispel some of the unknown factors and leave you with some chart of the sea ahead if I deal with group practice in my own profession of chartered accountancy because, as I see it, there are similar reasons in both professions for adopting it and similar advantages and disadvantages involved in it.

Before I embark on my comparison, I should say that although group practice is not meant to include in its definition an association of several dentists each of whom retains his own fees but all of whom share the common expenses of operation, it nevertheless seems to me that all of us must crawl before we walk and such an association may well be the first step, taken without too much of a gamble, towards true group practice in dentistry.

Let us assume that we have a well qualified chartered accountant on one hand and a well qualified dentist on the other. Both of them acquired their professional status, say, three years ago and both are sole practitioners and are busy full-time in general practice in their professions.

Now let us leave the dentist for a moment and consider the chartered accountant's situation.

He has sought after and has had referred to him all kinds of work which he has been trained to perform. He is an itinerant bookkeeper for some clients, he

<sup>1</sup>Presented at the Annual Meeting of the Canadian Dental Association, Vancouver, June 4, 1962.



handles audits, he is a part-time comptroller for other clients, he handles income tax returns, he advises on intricate business deals for the purchase or sale of a business or a merger, he is an estate planner, a management consultant; in short, he is a Jack-of-all-trades and a specialist in none.

What worries this chartered accountant? Several things, I think, and they are these:

First, he suffers economically from poor staff utilization. Likely he has only one employee, being a very competent stenographer or secretary, but he may be unable to keep her fully occupied.

Second, he may suffer from poor utilization of certain equipment—his typewriter, his adding machine, his calculating machine—mainly because he must spend a considerable amount of time working by himself on a particular client's affairs before it is necessary that his equipment be used.

Third, he suffers from poor utilization of his own time. A chartered accountant, like a dentist, is basically selling knowledge, skill, judgement and time. The more he can confine his work to the type of service which brings all of his qualifications to bear, the more he can charge per unit of time. Conversely, the time he spends doing work which could be done by less qualified persons, the less he can charge for that particular time. Further, the more time he spends on low grade work, the less time is available to develop his proficiencies on work requiring professional qualifications.

Fourth, he has no other practitioner conveniently at hand to consult on an impromptu basis on difficult problems.

Fifth, he has no other practitioner close at hand with whom he can compare his efficiencies and abilities as well as his deficiencies and disabilities.

Sixth, if he becomes ill, he worries about his obligations to his clients and if he is ill for a prolonged time, he is likely extremely concerned about the prospective dissipation or even disintegration of his practice. Because of his obligations to

his clients, he also finds it difficult to take vacations of reasonable duration or to take time for postgraduate studies.

Seventh, as he becomes older, he will worry about his lack of ability to attract youthful clients, although his proficiency and experience should make him more useful to them than a young chartered accountant. Furthermore, his stamina will decrease and the volume of his production will diminish as he finds it necessary to reduce his working time.

Eighth, in the event of his death by natural causes or by accident, his heirs will likely be hard put to it to realize fair value for his accounts receivable, work in process, office equipment and goodwill.

Consider these matters I have just detailed. I think it is possible that most, or perhaps even all, of them concern a dentist, who, like my imaginary chartered accountant, is a sole practitioner.

What can our imaginary chartered accountant do about these things?

First of all, I think he must examine his own mental make-up and personality. If he is a strong individualist of independent character, he will likely decide that he will be happier to carry on alone as a sole practitioner.

If, on the other hand, he is satisfied that he is co-operative, understanding of the opinions of others, willing to subrogate his opinions to those of others when it is reasonable to do so, he will seek out another sole practitioner of equal professional proficiency and experience and with similar personal characteristics of give-and-take and will suggest a period of business courtship.

I use the term "business courtship" because I suggest that the two of them will not be sure that they will work well together and they will admit this situation to each other, thus, agreeing in advance that the relationship may not ultimately prove to be compatible or advantageous and that after an experimental period, the two of them may wish to go their separate ways.

However, I believe the two of them would be foolish to enter into this period

of business courtship unless they both strongly believed that, in due course, it could well develop into a business marriage. This period of courtship might run for two or three years during which time the two of them would each retain his own gross fees and would share expenses of operation on a 50:50 basis or on some other equitable basis. Thus, these two chartered accountants, although they have become associated, would not be conducting group practice within the meaning of the definition described earlier.

What results would they achieve immediately? Together they would need less than twice the office space which each of them had before they became associated and, thus, they would save on rent. One stenographer would do for both; thus, they would save on salaries. One typewriter, one adding machine, one calculating machine would do for both and, thus, they would save on equipment. Items of overhead, such as telephone, stationery and other office supplies would decrease in cost.

The next objective of these two chartered accountants might be to improve the utilization of their own time by employing an articulated student. Dentists cannot do this but a comparison might be that two dentists might hire a hygienist or a technician. The purpose of our chartered accountants in acquiring an articulated student would be to delegate work requiring less than professional ability to be performed by a person with less than professional qualifications. Thus, our two chartered accountants would have freed themselves from routine work and that time becomes available for the performance of professional work, which I must presume has been developed by them. If one of them has a slack period, he will assist the other and vice versa, on an agreed compensatory basis.

Our two chartered accountants will likely have arrangements which will become applicable if one is ill or on vacation or attending a seminar or a post-graduate course.

The time may come when the two of them may both require professional assistance because each of them has expanded his individual practice. They may then agree to hire a chartered accountant and to divide his salary between them on the basis of their respective utilization of the employed chartered accountant's time. This addition at the professional level may require the employment of another articulated student, another stenographer (or another technician or hygienist in the dental field).

By this time I believe our two- or three-year courtship period for these two imaginary chartered accountants will have elapsed. If they have been compatible, co-operative, understanding of each other's individual business problems and objectives, as well as their joint problems and objectives, it is likely that they will get married in a business sense and convert their relationship into a partnership. As time progresses, other chartered accountants will be employed and some will advance to partnership level. The overall professional staff of partners and employed chartered accountants, together with the articulated students below them (which may be compared to the technicians and hygienists in dentistry) will permit the assignment of professional work among the partners and employed chartered accountants to promote proficiency by having the best qualified person perform the particular work to be done. This will furnish the environment for professional specialization to develop.

At this stage our two imaginary chartered accountants, together with others who have been admitted to partnership, will have achieved group practice according to the definition of your association. I paraphrase this definition to suit my profession as follows, "Group chartered accountancy practice is the application of public accounting and related services by a number of chartered accountants working in systematic association with the joint use of equipment and technical per-

sonnel and with centralized administration and financial organization."

Undoubtedly, a partnership agreement will exist among the partners in my imaginary partnership to cover situations which concern all of the partners, such as basic salaries, profit-sharing arrangements, remuneration in the case of illness, vacations, postgraduate study time and the realization on retirement or death of an equitable amount for a particular partner's interest in the accounts receivable, work in process, furniture and equipment and perhaps goodwill of the practice, goodwill being the value of the expectation of the continuing partners that the business previously handled by the retired or deceased one will continue to be conducted by the partnership as a whole.

Group practice, as you may know, is prevalent in the chartered accountancy profession and I would say that the great bulk of public accounting, auditing and related services today is performed by chartered accountants conducting business in group practice, although, of course, many sole practitioners are also in the field.

#### SUMMARY

The advantages to be gained from group practice in dentistry as well as in the evolutionary arrangements which I believe will exist between dentists as they work toward that goal are segregated into two main categories and in some instances it may be that one category blends into the other:

First are the intangible benefits which should arise from the very fact that several dentists have become associated in a co-operative effort—consultative convenience on an impromptu basis; facility to compare one's efficiencies and abilities with others; referral of patients one to the other; provision for the care of one's patients by others during temporary or prolonged illness, during vacations and periods of postgraduate study; provision for reduction in working time as age in-

creases; and finally provision for the equitable realization on retirement or death of one's business assets. All of these intangible benefits should contribute materially to the reduction of mental stress and strain.

Second are the tangible economic advantages — expansion of gross fees through the application of one's time to purely professional service by the effective use of hygienists, technicians and other personnel which are made available by the group. This in turn should facilitate the development of proficiencies and specialization in the group, which should also produce a beneficial effect on gross fees. Then there are savings in expense which should result from efficiencies of office space utilization, equipment and personnel utilization and from a reduction in cost of supplies arising from the increased purchasing power of the group. Further savings should be realized in overhead items, such as telephone expense, library, subscriptions, and like items because they are spread over a broader base.

#### RÉSUMÉ

*On peut grouper en deux catégories les avantages de l'exercice de groupe et ceux des dentistes qui ont entre eux une entente temporaire qui évolue vers l'exercice en groupe.*

*D'abord, il y a des avantages impalpables qui naissent de l'association de plusieurs dentistes pour réaliser leur travail en commun: consultations officieuses; occasion de comparer son rendement et son doigté avec ceux des autres; transfert de patients de l'un à l'autre; assurance que les patients seront traités au cours de maladie d'un confrère, de vacances, de cours post-scolaires; assurance de périodes de travail moins longues à mesure qu'un dentiste avance en âge; enfin, assurance d'un règlement équitable de l'actif d'un associé au cas de mort ou de retraite. Tous ces avantages allègent la tension nerveuse et l'incertitude.*

Ensuite, il y a les avantages économiques tangibles: augmentation des revenus bruts, en consacrant, grâce à l'utilisation efficace d'hygiénistes, de techniciens et d'autre personnel rendue possible par l'association, tout le temps disponible d'un dentiste à des fonctions purement professionnelles. Ce climat, par ailleurs, permet aux dentistes du groupe d'exécuter un meilleur travail et de se spécialiser et, en conséquence, favorise l'augmentation des honoraires bruts. Et il y a les économies réalisées par l'utilisation rationnelle de l'espace des cabinets, de l'équipement, du personnel et par l'accroissement du pouvoir d'achat du groupe. Des épargnes

supplémentaires peuvent se réaliser sur les frais fixes de bureau, tels le téléphone, la bibliothèque, les abonnements et autres, parce que ces dépenses sont réparties sur plusieurs.

Les dentistes qui exercent seuls doivent finalement songer sérieusement aux bénéfices que procure l'exercice en groupe tant pour le rendement de la dentisterie elle-même que pour le profit que le public peut en retirer.

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## case reports

### Improved technique for the correction of mandibular prognathism

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For years surgeons have endeavoured to answer the need for correction of the facial disharmony known as mandibular prognathism. This entity constitutes a major cosmetic and psychic deficit in many individuals who bear the deformity. Although it appears to be of little consequence during the first decade of life, the adolescent often becomes acutely aware of his affliction as he encounters the social intercourse of his age group. Operations for the correction of this de-

formity are not new and on this continent date back well over one hundred years. Men like Kazanjian, Waldron, Blair, Kostecka, Thoma, Caldwell, Erich, Dingman, Smith, Robinson, Moose, Letterman, Shira, Hinds and Alling have contributed to the literature and to the development of these operations. Various methods for the surgical correction of prognathism have been advocated from time to time by these authors and they have attempted to support this advocacy





FIGURE 1 Full face and profile photographs and intraoral view of the preoperative status. Note that the patient exhibits a reversed vertical overbite which would produce a telescoping effect if she were to contract her jaw musculature to a maximum. These patients tend to maintain a large freeway space in order to minimize the nose-to-chin approximation.

by listing certain advantages which, in their opinion, gave the particular method preference over certain others. In Canada, Simmons<sup>1</sup> and Antoni<sup>2</sup> have reported similar operative techniques in the Canadian literature.

In the past few years there has been a marked expression of preference by several of these surgeons for the technique

known as "oblique osteotomy of the mandibular ramus." Its advocates have suggested that the operation possesses certain inherent advantages over the two-stage osteotomy of the body of the mandible described by Dingman,<sup>3</sup> while at the same time acknowledging that the latter operation has its place in certain selected instances. As Alling suggests, the oblique osteotomy of the mandibular ramus "... will create a new gonial angle to the mandible; it may be performed in a reasonable length of time and is followed by a reasonable period of postoperative immobilization; and it corrects the intra-oral tuberosity—ramus relation."<sup>4</sup>

Rather marked obtuseness of the gonial angle is present in many cases of mandibular prognathism. The oblique osteotomy operation serves well to correct this imperfect angulation by increasing its acuity. Because of its relative simplicity, the operation may be performed often within a three-hour period as contrasted with the four to five-hour period required by other techniques. In Dingman's two-stage osteotomy procedure postoperative immobilization for three months is recommended, whereas in the oblique osteotomy operation six weeks appears to be ample. One obvious reason for this shorter immobilization period is due to the increased surface area of bony contact contingent upon the osteotomy of the ramus as compared with the osteotomy of the body of the mandi-



FIGURE 2 Study models showing the preoperative occlusal relations.

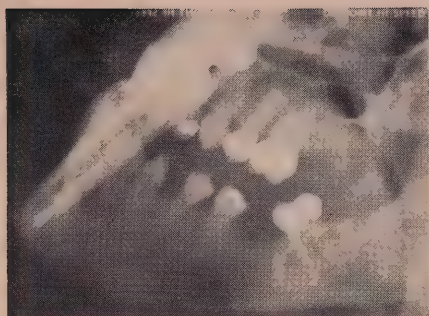


FIGURE 3 Right and left lateral jaw and cephalometric radiographs taken preoperatively.



operation in the ramus precludes the possibility of neurovascular involvement and consequent paraesthesia frequently seen in the body of the mandible operation.

The following is a case report to illustrate oblique osteotomy of the mandibular ramus.

#### CASE REPORT

*Examination and Treatment Plan.*—A nineteen-year-old female student nurse was seen on September 11, 1962, for examination and consultation relative to the surgical correction of the facial and occlusal disharmony which she presented (Figure 1). The general outline of the procedure as well as the several implications involved were presented to the patient and she accepted them in principle. Full upper and lower dental arch impressions were then taken and resulting models were mounted for study purposes (Figure 2). Full-mouth dental radiographs as well as lateral jaw, P-A mandible, and cephalometric radiographs were obtained (Figure 3).

After the method of Caldwell<sup>5</sup> a tracing was made of the cephalometric radiograph on onion skin paper (Figure 4). This was transferred with carbon paper to a stiff type of paper (Figure 5). It was then possible to plan the line of cut and actually produce this section with a cardboard template (Figure 6). This permitted the positioning of the proximal fragment into its new position lateral to the distal portion of the mandibular template. All of this planning assists greatly in evaluating the new occlusion which will result, the amount of bone overlap that will

ble. Furthermore, the osteotomy in the body of the mandible only corrects the relations of that part of the mandible distal to the site of operation. The proximal segments are not significantly changed in their relative positions and certainly this operation does nothing for the tuberosity-ramus relations. The latter is often an important consideration in terms of future prosthesis. Also, since the proximal fragments are not moved dorsally in the body of the mandible procedure there is no compensation for the crossbite relationships existent between the maxillary and mandibular dental arches frequently seen in this condition in the molar region. An additional advantage, of course, is that the site of

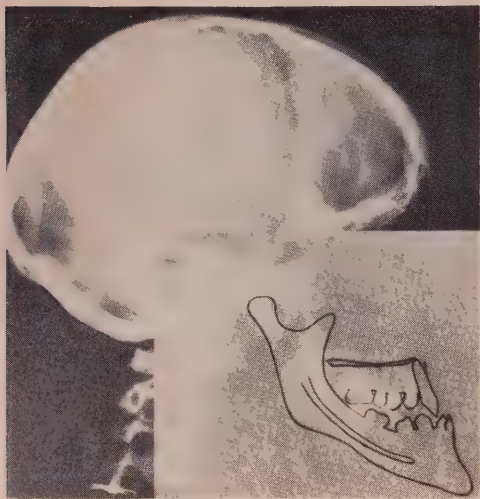


FIGURE 4 Onion skin paper tracing of the cephalometric radiograph for planning purposes.

be expected, the new gonial angle which will be produced, and the proximity of the bone incision to the mandibular foramen.

Contact was made with the patient's physician and a thorough physical examination and routine clinical laboratory tests were performed. She was found to be in good physical condition and fit for operation. On September 26 Erich arch bars were wired

to place on the maxillary and mandibular dental arches under local anaesthesia in the office. The patient was admitted to hospital that same evening.

**Surgical Procedure.**—The following morning the patient was taken to the operating room where the operation was performed utilizing endotracheal (nasal) anaesthesia with nitrous oxide and oxygen and sodium thiopental induction. The patient was situated in a supine position on the operating table and she was prepared and draped in the usual sterile manner. The proposed incision line, about 1.5 cm. beneath the inferior border of the mandible and evenly positioned about the angle of the mandible, was outlined with methylene blue. This line was about 3.0 cm. in length. The described incision line was performed bilaterally.

The patient was then turned on her left side and following proper sandbag support the initial approach was made along the previously marked line beneath the right mandibular angle. The skin and subcutaneous tissues were separated by sharp dissection as were the underlying platysma and investing fascia of the neck. No significant bleeding was encountered. This was largely due to the infiltration of about 3 cc. of 2 per cent lidocaine containing adrenaline in a con-

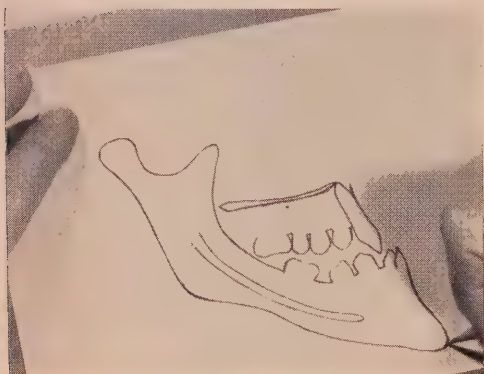


FIGURE 5 Transfer of the mandibular tracing to heavy white paper with carbon paper interposed.



FIGURE 6 (a) Tracing showing the proposed line of bony incision from lowest point of mandibular notch to a point midway between the gonial angle and the subcondylar incisure. (b) Template of stiff black paper with the cut having been made along the proposed line of incision.



centration of 1:100,000 along the course of the incision line. Once the inferior border of the mandible was encountered the periosteum was divided cleanly using a No. 15 blade.

The masseter muscle and the underlying periosteum were then elevated from the lateral aspect of the ramus by means of a periosteal elevator up to the level of the mandibular notch. The internal pterygoid muscle attachment was also released similarly from the medial aspect of the ramus. Using the straight edge of a metallic instrument a line was then drawn with methylene blue from the lowest point of the mandibular notch down to the point midway between the gonial angle and the subcondylar incisure of the ramus. Then, using a Lindemann drill on the Jordan-Day engine handpiece, a cut was made along the course of this line until the ramus had been divided. (The handpiece is held at a very oblique angle almost parallel to the surface of the ramus when this cut is being made. This is done to preclude injury to the underlying soft tissues when a stabbing technique is used with a drill at a more acute angle, as well as to take advantage of the remarkable efficiency of this drill. A broad flat retractor is placed on the medial aspect of the ramus beneath the line of cut to give further protection to the adjacent soft tissues. It should also be pointed out that this line of cut is proximal to the mandibular foramen and therefore one should not encounter any neurovascular elements entering the mandible. Copious amounts of saline are used to cool the drill while it is being used.)

The proximal fragment containing the condyle was then elevated sufficiently free of its muscle attachments so that it could overlie the distal fragment on its lateral aspect. Hot saline sponges were inserted into the wound and the patient's head was turned to the opposite side where a similar procedure was carried out.

With saline sponges in both open wounds and with these areas protected with a sterile towel, the operative field was moved to the oral cavity where an attempt was made to establish the desired dental occlusion which had been planned during the preoperative preparation. This resulted in the dorsal movement of the distal fragment to the extent of about .16mm. and appeared to give satisfactory occlusion with reasonable stability. With this occlusion established, the maxillary and mandibular arch bars which had been ligated to place the previous day were secured together with lengths of 25 gauge stainless steel wire in order to maintain the newly established occlusion (Figure 7). The surgeons then changed their gowns



FIGURE 7 The newly established occlusion being maintained by Erich arch bars and 25-gauge stainless steel ligatures.

and gloves and the patient was redraped before returning to the extra-oral incisions.

Inspection through the skin incisions now revealed that the proximal fragments of the mandible were overlying the distal fragment in the desired position. A single drill hole was then made through the distal fragment near its lower border and close to the line of incision. Through this hole was passed a small length of 25 gauge stainless steel wire and this was wrapped around the inferior projection of the proximal fragment in order to tie it securely in circumferential fashion to the distal portion of the mandibular ramus. A similar ligation was performed on the opposite side.

The wounds were carefully debrided using suction and liberal irrigations of saline solution. The wounds were closed in layers using 3-0 chromic gut suture for the periosteum and jaw musculature, 4-0 plain gut for the platysma and subcutaneous tissues, and 5-0 monofilament nylon for the skin closure. Petrolatum gauze strips were placed over the incision lines and pressure dressings were applied bilaterally and secured with elastic bandages.

The hypopharynx was then suctioned carefully with a rubber catheter via the mouth, and because the anaesthetist had wisely maintained the patient in a relatively light stage of anaesthesia her reflexes returned quickly thus permitting the removal of the endotracheal tube while still in the operating room. She was observed closely immediately following the removal of the tube but she experienced no respiratory difficulty. She was then moved to the post-anaesthetic recovery room in good condition.





FIGURE 8 Postoperative right and left oblique lateral jaw and P.A. mandible radiographs. The wire ligatures maintaining the inferior projection of the proximal fragments in apposition to the distal fragment can be visualized.



*Postoperative Course.*—The patient's fluid intake was continued during the day of operation by means of intravenous infusion of a solution of 5 per cent dextrose in water. Wire cutters were fastened to the head of the patient's bed and the postanaesthetic recovery nurse was instructed to cut the intermaxillary wires should the patient experience vomiting with resultant airway difficulty. Penicillin coverage which had been instituted preoperatively was continued.

On the first postoperative day moderate oedema was present but the patient was in

good spirits and was able to take fluids by mouth. Her occlusion was satisfactorily maintained.

On the second postoperative day the pressure dressings were removed and all the sutures appeared to be holding the incision line intact. The oral fluid intake, which had been fortified with liquid protein, carbohydrate and vitamin supplements, continued satisfactorily. Dry sterile dressings were placed over the wounds.

On the third postoperative day the oedema began to subside and alternate skin sutures were removed. Postoperative radiographs were ordered (Figure 8). Her recovery continued favourably and on the fifth postoperative day the remaining skin sutures were removed. The patient was then discharged from hospital. She was instructed to prepare herself a nourishing diet at home using fruits and vegetables in a domestic blender. A liquid multivitamin preparation was also prescribed for home use.

The patient was seen in the writer's office at weekly intervals and the intermaxillary wires were tightened as required. The patient maintained excellent oral hygiene which is extremely difficult under these circumstances. She experienced no significant degree of weight loss during her period of immobilization.



FIGURE 9 Full face photograph taken 8 weeks after the operation.



FIGURE 10 Profile photograph taken 8 weeks after the operation showing short curvilinear scar which will whiten with age and become relatively inconspicuous.

On November 7, six weeks after her operation, the intermaxillary wires were removed and her mandible was mobilized. There appeared to be good clinical evidence of union. Although there was some initial stiffness when the patient first opened her mouth and used her mandible this quickly disappeared within the following forty-eight hour period and she was soon able to eat normally. On November 14 the arch bars were removed and because of the marked gingivitis which accompanies the wearing of these arch bars the patient was instructed in proper methods of oral hygiene and gingival stimulation to improve gingival health. Two weeks later there was remarkable improvement in the state of the gingiva due to the patient's diligent home care. She expressed satisfaction with the result. She was referred for minor occlusal adjustment which is usually indicated following these operations. There was no evidence of seventh cranial nerve impairment at any time during the post-operative course.

#### COMMENT

It is rewarding to the surgeon to see the improvement not only in the faces of these individuals but also in their personality (Figure 9). Whereas a rather withdrawn and introspective demeanor often characterizes these individuals preopera-

tively, a new confidence and outgoing personality appear to blossom forth post-operatively. The incision line is not a significant drawback to the operation since it is situated beneath the shadow line of the mandible and in a few months' time whitens to the point of being relatively inconspicuous (Figure 10).

#### SUMMARY

An improved technique for the surgical correction of mandibular prognathism is described. A case report is used to illustrate this technique. The advantages of this technique over others which have been presented in the past are enumerated.

#### RÉSUMÉ

*L'auteur décrit une ostéotomie oblique de la branche montante de la mandibule pour traiter un prognatisme mandibulaire. Cette intervention corrige la déclivité plutôt prononcée du gonion qu'on retrouve dans plusieurs cas de prognatisme mandibulaire. Cette intervention, grâce à sa simplicité, peut s'effectuer en*

dedans de trois heures, tandis que les autres techniques exigent habituellement de quatre à cinq heures. Six semaines d'immobilisation suffisent généralement à la suite de l'ostéotomie oblique: l'immobilisation, dans ce cas, est moins longue parce que les surfaces osseuses de contact sont plus considérables qu'après une ostéotomie de la branche horizontale. De plus, l'ostéotomie du corps de la mandibule ne corrige que les relations de la partie distale à l'endroit de l'intervention. Les segments proximaux ne subissent pas de modification profonde dans leurs positions relatives et l'intervention ne change rien aux relations tubérosité-branche montante. Ces relations jouent souvent un rôle important, plus tard, au cours de la confection de prothèses. L'opération dans la branche horizontale, puisque les segments proximaux ne subissent pas de mouvements dorsaux, ne produit pas de compensation pour les rela-

tions croisées de l'occlusion entre l'arche du maxillaire et celle de la mandibule qu'on voit fréquemment dans ces cas, dans la région des molaires. Un autre avantage de cette technique réside dans le fait, qu'en limitant l'intervention à la branche montante, on évite la possibilité d'une complication neuro-vasculaire et d'une paresthésie qui suit souvent une intervention à la branche horizontale.

Le rapport d'un cas illustre cette technique.

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718 Granville Street

## Replantation of an extracted bicuspid following treatment of apex

W. F. Shaw,\* D.D.S., Hudson Heights, P. Quebec  
and J. J. Y. Turcotte,† D.D.S., Canadian Armed Forces, Europe

The treatment of chronic periapical infections follows two courses: (1) the restoration to normal by treatment only through the root canal; or (2) surgical eradication of the diseased structures. Three alternatives are available where conservative treatment is unsuccessful or where surgical treatment is chosen de-

liberately: (1) the tooth may be extracted with surgical eradication of the diseased area; (2) apicoectomy; or (3) replantation.

Tooth replantation has been a subject of interest for many years. This procedure has been advocated in cases of accidental traumatic avulsion of young permanent teeth. Reports of its success or failure appear to be linked to the

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†Captain, Royal Canadian Dental Corps.



length of the interval between loss of the tooth and replantation, care given to the tooth during this interval, the extent of injury to the adjacent supporting structures, and subsequent stabilization during the repair stage.<sup>1</sup>

The following is a report of the deliberate extraction of a bicuspid with periapical infection and the subsequent replantation of this tooth.

#### CASE REPORT

**Examination.**—A 34-year-old male corporal in the Royal Canadian Air Force, stationed at Grostenquin, France, reported to W.F.S.'s dental clinic in West Germany on February 13, 1963 while visiting friends in that country. He complained of acute toothache. Upon examination the lower left second bicuspid was found to be very sensitive to percussion. The crown of this tooth was extensively restored with amalgam, but there was no evidence of recurrent caries or defective margins. The remainder of the teeth were in good repair. The gingival tissues were normal and bone support was very good. Because direct access to the root canal would have further weakened the coronal restoration, it was decided to extract the tooth and attempt subsequent replantation.

**Surgical Procedure.**—The tooth was easily elevated with very little trauma to the alveolar bone. A portion of the apical part of the root was cut off, and the root was contoured round. A cavity was prepared in the cut apical surface using a 33½ inverted cone bur. The cavity was filled with amalgam. The periodontal membrane and attached gingiva were removed from the tooth with sharp scalars. The cementum covering the dentine was similarly removed at various locations on the root. The tooth was then washed with soap, the socket was irrigated with physiological saline, and the tooth was gently replaced in the socket. The root having been shortened, the tooth was now slightly out of occlusion. Wiring for stability was not required as is the case with anterior teeth.

When the patient returned on the following morning the tooth was completely asymptomatic. He was referred to the dental officer (J.J.Y.T.) at the Air Base (Grostenquin, France) where he served.

**Postoperative Course.**—Radiographs were taken on February 13 (Figure 1) and on

May 25, 1963 (Figure 2). When last seen the tooth was still asymptomatic. It functioned well in occlusion and was not mobile. There appeared to be some radiographic evidence of periapical rarefaction (although this cannot be ascertained with certainty because the radiographs do not reveal sufficient apical bone). There was also considerable bone loss at the neck of the tooth.

#### DISCUSSION

Two principles are important in replantation of human teeth. The first concerns preparation of the root. Either the root should be shortened or an opening should be made through the buccal plate in order to reduce hydraulic effects during replantation and allow for some swelling during healing. Perforation of the buccal plate has the advantage of leaving the root intact. The root should also be planed so that some dentine is bared. Experimental research has shown dentine to be more stimulating to the production of secondary dentine.<sup>2</sup> The second point is that sterilizing agents will chemically affect the residual tissue on the surface of the root and reduce the



FIGURE 1

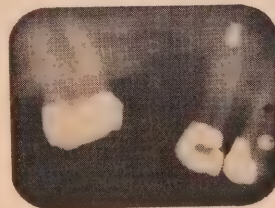


FIGURE 2



compatibility of the implant. Løe and Waerhaug<sup>3</sup> have shown that success or failure in experimental replantation of teeth in dogs and monkeys seems to depend greatly on the presence or absence of a vital periodontal membrane. In teeth replanted with vital periodontal membrane, the periodontal membrane was always reformed after replantation and ankylosis was never observed. Such

teeth should therefore simply be cleaned with a mild soap and rinsed well.

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## annotations

### SWEDEN'S DENTAL HEALTH PLAN

*Don W. Gullett, D.D.S., Toronto,  
Ontario*

During July 1963, Canadian Dental Association secretary D. W. Gullett visited Sweden. He brought back the following information on Sweden's dental health plan:

Swedish school children are fully covered for dental services. The age level for coverage was raised in 1963 from 15 to 16 years. Government officials say the age level will eventually be raised to 18 years, but the impression among dentists is that political pressure will eventually force coverage of the whole population. In the past, however, the government has accepted the advice of the profession to extend the service very gradually.

Of 5,800 dentists in Sweden, more than 1,900 are employed full-time in the public health service. These dentists are salaried and practise in dental clinics which are located throughout the country and which are administered by the county councils. Payment is by salary. Over 50 per cent of a dentist's time must be spent practising for children. The balance of his time is utilized in caring for adults

in the area. Adults pay for dental care on the basis of a maximum fee schedule. By Canadian standards, the fee schedule seems rather low. Overcharging by the dentist results in severe court action. The money received from adults is subject to strict accounting and is turned over to the administration for the area.

Special arrangements exist for pregnant and nursing mothers who are permitted to receive services in private offices. The dentist is allowed to charge his regular fee and the patient is partially reimbursed from the social security fund. The rebate amounts to about one third of the total payment.

The government is making a strong effort to improve the dentist-population ratio in order to meet the public demand for dental services. The present ratio is one dentist to 1,300 people. The immediate objective is 1:1,000.

The attitude of the profession toward the health plan has altered considerably during recent years. Dentists no longer consider it practical to fight the movement which they believe inevitable. They consider co-operation the better attitude in order to obtain the best end results for the profession.

234 St. George Street

## **Canada needs a national health grant for dental health**

There is urgent need for a specific federal health grant earmarked for dental health. This need is thrown into sharp relief by the fact that only about one percent of total health grant funds from the Department of National Health and Welfare have been allocated to dental projects during each of the last four years. Such a pittance provides for little more than a token program in most provinces.

There was a time, in the early years of the National Health Grant program, when dentistry fared reasonably well, when absence of a dental grant did not appreciably impede the postwar impetus in dental public health. This was because during the first five or six years funds from various other health grants, specifically named for related health fields, were made available in most provinces to initiate dental programs. However, as other types of grant-aided activity developed and the competition for funds increased it became increasingly difficult to obtain aid for dental projects. Lack of a dental grant began to have a hampering effect and pressure at provincial and national levels for other kinds of activity gradually restricted new dental activity.

At a time when Canadians spend considerably more than a hundred million dollars annually to repair the ravages of dental disease we can ill afford the lux-

ury of permitting preventive dental health programs to grind to a complete standstill. For how can we ever hope to control dental disease if the flow of funds that nourishes these activities and that helps to train competent research workers and public health dentists gradually dries up.

This is not simply a question of prestige or status for dentistry. At issue is the health of a nation which is being jeopardized. Something must be done, and done quickly, to revitalize Canada's dental public health programs. We are going to need more money for a host of related activities — fluoridation, dental public health research, capital expenditures for dental schools, teacher and specialist training, training dental assistants and laboratory technicians, student loan funds — more money for an all-out attack on dental disease and abnormalities.

Creation of a dental grant, administered by dentists with help from people trained in the administration of health grants, would be a good first step to help remedy the present unsatisfactory situation. On the other hand, continuation of the present attitude of governments and their departments of health towards the dental aspects of public health will rapidly discourage and stultify the promising beginnings made by the dental profession during the past decade.

## Ownership of radiographs

Every once in a while there arises a dispute over who owns diagnostic radiographs. Patients have been known to withhold payment for professional services pending the delivery of films. There are cases on record where the patient even sued for the films. The question is this: do radiographs belong to the patient, to the dentist, to the radiologist, or—in the case of institutions—to the hospital or clinic?

In essence the position of radiographs corresponds to that of other documentary health records. They are regarded as one of the records of the case. The practitioner who examines a patient renders a service based upon his knowledge, skill and experience. He uses radiographs as part of that examination. He does not sell x-ray film material. Neither does he undertake to hand over films or other records to the patient. Radiographs have no intrinsic value for the patient. Their only value is to the practitioner with sufficient skill to interpret them.

If the patient is a private patient in hospital or in private practice, the radiographs are the property of the person who performed the radiographic examination. If the patient is a public patient

in a clinic or a hospital, the radiographs are the property of the clinic or hospital. Radiographic reports are in a different category. They are confidential reports between professional men to be given to patients only when it is certain that no psychological damage will be done thereby.

Sarner<sup>1</sup> states that radiographs are probably the most essential part of a dentist's evidence in a malpractice suit. There is no better way for the dentist to support his actions than by showing the radiographs which motivated such action. He must therefore take the necessary steps to preserve radiographs as part of the patient's permanent record.

Sarner, further, recommends care in the manner of billing a patient in order to avoid any uncertainty as to legal ownership of radiographs. Itemized accounts for the taking of radiographs and for the film itself, when presented in court, could become a source of contention. Radiographs should therefore be included in a general account for dental services. They should not be itemized separately.

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*Dental Economics News Letter* • News of the latest developments in dental and health economics in Canada and abroad appears in the *Dental Economics News Letter* published by the Bureau of Economic Research of the Canadian Dental Association. The News Letter also contains direct quotations from articles appearing in newspapers and magazines. These portray the thinking in this field outside the profession. Association members who wish to receive the News Letter should make application to the Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

### News from the Association

#### PRESIDENT ZIMMERMAN TOURS EAST

Dental organizations in eastern Canada received visits from Canadian Dental Association president James Zimmerman earlier this month during the annual presidential visitation tour to the eastern provinces. Accompanied by secretary Don W. Gullett, Dr. Zimmerman addressed meetings at Quebec City on November 4, Fredericton on November 5, Charlottetown on November 6, Halifax on November 7, and Montreal on November 11.

Both Dr. Gullett and President-elect Rémy Langlois of Quebec City represented the Canadian Dental Association at the convention of the Newfoundland Dental Society in Gander earlier in October.

#### PAST PRESIDENT MERKELEY DIES



H. J. Merkeley

H. J. Merkeley of Winnipeg died on September 4. Dr. Merkeley was president of the Canadian Dental Association 1948-49 and was made an honorary member in 1957. Born in eastern Ontario, Dr. Merkeley began dental practice in Winnipeg following his graduation at Toronto in 1911. He was the first president of the National Dental Examining Board of Canada and a fellow of the American College of Dentists. He was also a former president of the Winnipeg, Manitoba, and Western Canada dental societies. Among his

hobbies was the importation to Manitoba of many non-native animals, birds, flowers and fruits, developing them to withstand the rigorous Manitoba winter.

#### RETIREMENT PLAN GROWTH CONTINUES

In less than six years since its beginning, the Canadian Dental Association Retirement Savings Plan has grown to include assets with a market value of over \$2.3 million. The latest quarterly report, at August 31, shows that 61 per cent of the total is represented by the common stock fund, 25 per cent by the corporate bond fund and 14 per cent the government bond fund. Unit values, which started at \$10, now stand at \$15.66 (common stock) \$12.97 (corporate bond) and \$12.23 (government bond). Current participation in the plan embraces 565 C.D.A. members.

#### NEW PAMPHLETS AVAILABLE

Two new pamphlets on dental health and fluoridation suitable for distribution to the public are now available from the Canadian Dental Association.

"Fluoridation is the boon we need," describes the advantage of fluoridating communal water supplies and discusses alternative methods—home fluoridation, topical fluoride application and fluoride dentifrices. This pamphlet is based on an article by Elizabeth Chant-Robertson, prominent Toronto Hospital for Sick Children nutritionist, and Gordon Nikiforuk, chairman of the Division of Dental Research, University of Toronto. The article appeared originally in *Chatelaine* magazine, March 1961. Cost of the pamphlet is \$1.65 per hundred copies.

"The four-leaf clover of dental health" is a single sheet pamphlet outlining in point form basic principles of oral hygiene, dental care, food habits and use of fluorides. The cost of this pamphlet is \$1.10 per hundred copies.

Copies of both pamphlets may be secured from the Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.



## Canada and the Provinces

### NEW REGULATIONS COVER DISTRIBUTION OF DRUG SAMPLES

Manufacturers, wholesalers and distributors were advised by the Food and Drug Directorate of the Department of National Health and Welfare, through Trade Information Letter No. 219 of April 22, 1963, that section 14 of the Food and Drugs Act was amended by Parliament to read as follows:

14. (1) No person shall distribute or cause to be distributed any drug as a sample.

14. (2) Subsection (1) does not apply to the distribution, under prescribed conditions, of samples of drugs to physicians, dentists, veterinary surgeons or pharmacists.

The purpose of Section 14 (2) of the Act is to permit manufacturers and others to distribute drug samples to members of the named professions to acquaint them with the appearance, pharmaceutical forms and packaging, including the labelling, of their products.

In accordance with the provisions of the above amendment, the following Regulations regarding the distribution of drug samples to the four named professions were promulgated by the Governor-in-Council by P. C. 1963-1119 of July 25, 1963 and published in the August 14 issue of the *Canada Gazette*, Part II:

1. The Food and Drug Regulations are amended by adding thereto, immediately after section C.01.047 thereof, the following sections:

#### C.01.048

(1) A person may distribute as a sample, a drug that is not a narcotic as defined in the Narcotic Control Act, a controlled drug or a new drug in respect of which a notice of compliance has not been issued under section C.01.305 if (a) the drug is distributed to a person who is a physician, dentist, veterinary surgeon or pharmacist registered and entitled to practice his profession in a province of Canada; (b) the label of the sample carries all the information required by these Regulations; and (c) in the case of a drug that is referred to in Schedule I to these Regulations, the person distributing the drug as a sample has first received an order in writing signed by the physician, dentist, veterinary surgeon or pharmacist to whom the sample is being furnished specifying the name and the quantity of the drug requested to be furnished as a sample.

(2) An order referred to in paragraph (c) of subsection (1) may provide that the order be repeated at specified intervals during any period not exceeding six months.

#### C.01.049.

A person who, under section C.01.048, distributes a drug as a sample, shall (a) maintain records showing (i) the name, address and description of each person to whom the drug is distributed, (ii) the name, quantity and form of the drug distributed, and (iii) the date upon which each such distribution was made; and

(b) keep those records and all orders received for drugs in accordance with section C.01.048 for a period of not less than two years from the date upon which the distribution referred to in the records was made.

2. The said Regulations are further amended by adding thereto, immediately after section G.06.003 thereto, the following Schedule:

Schedule 1—Drugs for samples of which written orders are required pursuant to section C.01.048 of the Food and Drug Regulations.

1. A drug listed in Schedule F to these Regulations.

2. A drug the recommended maximum single or daily dosage of which or the concentration of which is in excess respectively of the maximum single or daily dosage or percentage, as the case may be, set forth in the Table following Section C.01.021.

3. A drug referred to in section D.03.006.

4. A new drug in respect of which a notice of compliance has been issued under section C.01.305.

For guidance in complying with these Regulations the following comments are offered:

Manufacturers, Wholesalers and Distributors:

1. A drug can only be furnished by way of sample to a member of the named professions who is registered and entitled to practise his profession in a province of Canada. It is the responsibility of the person distributing samples to ensure that the recipient is eligible to receive such samples.

2. The label of a sample must carry all of the information required by the Food and Drug Regulations for the regular package of the same drug.

3. Written orders for samples are required only for the classes of drugs listed in Schedule 1 to the above Regulations.

4. Records must be kept respecting all drugs furnished as samples and not only those for which written orders are required.

5. Records of sample distribution must be kept in a suitable form and place so as to provide an up-to-date and detailed account of the distribution by the manufacturer or his representatives. They must be open to inspection or examination during normal business hours.

6. Samples cannot be furnished directly to institutions but only to a physician or pharmacist who is identified with the institution.

7. The attached Regulations do not apply to Narcotics, Controlled Drugs and New Drugs in respect of which a notice of compliance has not been issued because these drugs are covered by specific provisions in the Regulations applicable to them.

Physicians, Dentists, Veterinary Surgeons:

Since the purpose of the Regulations is to permit practitioners to receive samples of drugs, a practitioner may use such drugs in his practice in accordance with his professional judgement. However, if he distributes

such samples to any persons other than his patients he must keep the necessary records of such distribution.

#### Pharmacists:

Although the distribution of samples of drugs to pharmacists is authorized by the Act, it does not permit their further distribution as samples to the public.

All persons associated with the receipt and distribution of drugs are reminded that the above Regulations are now in effect.

### CANADIAN EXPENDITURES ON DENTAL CARE REACH \$119 MILLION

An estimated \$119 million (\$6.51 per person) were spent on dental care in Canada in 1961 according to figures recently released by the Department of National Health and Welfare. Between 1953 and 1961, seven to eight per cent of all expenditures on personal health care were devoted to dentists' services. Ontario spends the most on dental care (\$46.8 million in 1959) but British Columbia has the highest per capita expenditures (\$9.40 per person).

### H. K. BROWN NOT RETIRED

An announcement of the retirement of H. K. Brown, dental consultant, Department of National Health and Welfare, was prematurely reported in the August issue of the *Journal of the Canadian Dental Association*. It has since been learned that Dr. Brown continues his departmental duties until December 13, 1963.

### DENTISTS' INCOMES INCREASE

Incomes of dentists increased by 55 per cent from 1954 to 1960, according to taxation figures analysed by the publication *Canadian Business*. Incomes of the group classified as physicians and surgeons rose 37 per cent in the same period. Accountants showed a 31 per cent rise, followed by engineers and architects 29 per cent and lawyers and notaries 22 per cent. Salesmen's incomes rose 20 per cent and business proprietors' 6 per cent. Average increase for all taxpayers listed was 23 per cent.

Average incomes for 1960, as published in *Taxation Statistics* are \$16,323 for physicians and surgeons; \$15,670 for engineers and architects; \$14,597 for lawyers and notaries; \$12,238 for dentists; \$11,446 for accountants.

Average income for all taxpayers was \$4,232.

### EDMONTON DENTIST HEADS PACIFIC COAST PROSTHO- DONTISTS

S. D. Fraser, a well-known Edmonton dentist, was named president of the Pacific Coast Society of Prosthodontists at Santa Barbara, California, in July 1963. This society restricts its membership to 50 active members from Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington and the provinces of Alberta and British Columbia. Dr. Fraser will preside at the Twenty-Ninth Annual Meeting of the society, July 23-25, 1964, at the Bay Shore Inn in Vancouver.



S. D. Fraser

Dr. Fraser retired from the Department of Prosthetics, Faculty of Dentistry, University of Alberta, in August 1962, but he maintains an active prosthodontic practice in Edmonton.

### DENTAL INSURANCE PLAN OFFERED BY ZURICH

The Zurich Insurance Company is now marketing two dental plans in Canada. Plan "A" offers the following benefits:

Basic Dental Benefits.—Reimbursement is up to 100 per cent of the provincial dental association fee schedule with no waiting periods, deductibles or co-insurance for such frequent dental services as: extractions, including anaesthesia — no maximum; amalgam, silicate or acrylic restorations—no maximum; examinations radiographs, prophylaxis and scaling—\$15 maximum per person during any 12 month period; general anaesthetic—\$10 maximum per period of anaesthesia.

**Major Dental Benefits.**—Reimbursement is up to 75 per cent of the provincial dental association fee schedule. There is no deductible but the waiting periods and maxima apply: prosthetic appliances and their repair, jacket crowns and gold restorations, up to \$500 for each insured person; dentures required for the first time are covered after the beneficiary has been insured for 12 months; replacement dentures are covered after 24 months; orthodontic treatment is restricted to children under 8 years of age and limited to \$150 per insured child during the period insured; periodontal treatment, root canal therapy and other oral surgery is limited to \$100 per insured person during any 12 consecutive months.

Plan "B" offers the following benefits:

**Basic Dental Benefits.**—The same benefits are described under Plan "A" but reimbursement is limited to 75 per cent of the provincial dental association fee schedule.

**Major Dental Benefits.**—The same benefits as described under Plan "A" but reimbursement is limited to 50 per cent of the provincial dental association fee schedule. Premium rates are contingent on the group risk involved but will range between \$1.65 and \$2.50 for a single employee and \$5.25 and \$8.00 for a family.

#### PREPAID DENTAL PLAN STARTS IN MARITIMES

The Maritime Hospital Service Association which administers Maritime Blue Cross and Blue Shield plans from its headquarters in Moncton, New Brunswick, has decided to offer its employees a prepaid dental care program. The plan will run for one year on an experimental basis and, if successful, will form the basis of a dental plan to be offered to the general public in the Maritimes.

#### BRITISH PACIFIC ANNOUNCES NEW DENTAL PLAN

The British Pacific Life Insurance Company of Vancouver has recently developed a dental plan for families and individuals from birth to 80 years of age. Policies are guaranteed renewable for life.

The plan pays cash benefits for specified treatment and services. The amount paid is the actual expense up to a stated maximum for each service. Examples of services and maximum benefits paid to the patient per tooth are: fillings \$3; gold foil restorations \$7.50; gold inlays \$12.50; gold crowns (shell, anterior and posterior) \$12.50; gold crowns (full cast, porcelain or acrylic veneer, acrylic

or porcelain jacket) \$25; fixed bridgework \$25; removable bridgework \$15; each clasp \$15; extractions: deciduous teeth \$3; extractions: permanent teeth \$5; extraction of soft tissue-impacted third molars \$10; extraction of complete bone-impacted teeth \$20.

For other services not specified above the policy will pay up to \$3 for each dental treatment, limited to one treatment per day. The maximum payable in any policy year for these additional services is \$150 per person.

The plan pays \$1 per radiograph to a maximum of \$10 per treatment period.

The plan's brochure states, "The benefits detailed above are not to be construed as establishing or limiting the amount of the dentist's fees for such service."

Specifically excluded from the plan's benefits are complete dentures, orthodontic treatment, and periodic checkups.

Monthly premiums are calculated on the basis of age. Not all members of a family must join but if the policy is issued to children only, the adult rate is charged for the first child. A \$6 fee is payable once only with the application for the policy. Monthly premiums for male (M) and female (F) beneficiaries, according to age, are: 0-17 years, \$2.15 (M) and (F); 18-45 years, \$3.25 (M), \$3.50 (F); 46-65 years, \$3.70 (M), \$3.95 (F); 66-80 years, \$5.45 (M) and (F).

#### DAVEY HEADS TORONTO CHILDREN'S HOSPITAL DENTAL DEPARTMENT



K. W. Davey

K. W. Davey, a Toronto paedodontist, was named chief of the Dental Department, the Hospital for Sick Children, Toronto, September 6. He succeeds S. A. MacGregor, chief of the department since 1951. Dr. Davey is an assistant professor in the Department of Paedodontics, Faculty of Dentistry, University of Toronto, an appointment



which he holds since completing postgraduate studies in Scandinavia and in Britain.

Dr. Davey will divide his time between the hospital and the University of Toronto.

## International Items

### AAAS TO MEET IN MONTREAL IN 1964

The American Association for the Advancement of Science is coming to Canada next year. Montreal will be the site of the association's annual meeting, December 26-31, 1964. Virtually all sessions of the association's twenty sections (including the section on dentistry) will be held in Montreal's downtown hotels. The Queen Elizabeth Hotel will be the headquarters for the AAAS exposition and related evening events.

In the 115 years of its existence, the AAAS has met in Canada on a national scale only five times, the last occasion being at Ottawa in June 1938.

Further information may be obtained from R. L. Taylor, associate administrative secretary, The American Association for the Advancement of Science, 1515 Massachusetts Avenue, N.W., Washington 5, D.C., U.S.A.

### CANADIANS INVITED TO EUROPEAN ORTHODONTIC CONGRESS

The European Orthodontic Society will hold its Fortieth International Congress, July 7-11, 1964, in Athens, Greece. An invitation to attend has been extended to all Canadian orthodontists. Further information may be obtained from Professor H. N. Haralabakis, Dental School, University of Athens, Acadimias 31, Athens 135, Greece.

### ORAL SURGEONS FORM INTERNATIONAL GROUP

Formation of an International Association of Oral Surgeons, with headquarters in London, England, has recently been announced. The new group stems from organizational efforts initiated earlier this year when delegates to the First International Conference on Oral Surgery in London, England, recommended the formation of an international grouping of oral surgeons.

Preliminary administration is by a committee consisting of F. A. Henny and L. O. Bishop (United States), Jorgen Rud (Denmark), Pierre Cernea (France) and Terence Ward (Great Britain).

Further information may be obtained from Terence Ward, International Association of Oral Surgeons, c/o Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2.

### EMPLOYEES USE AMERICAN DENTAL ASSOCIATION DENTAL PLAN

During its first year of operation, 56 per cent of those eligible utilized the benefits available under the American Dental Association's prepaid dental care plan for the Association's employees. Fifty-nine per cent of the employees and their wives and 50 per cent of the children received dental care.

### PREPAID DENTAL PLANS COVER OVER A MILLION AMERICANS

"More than one million United States residents are now covered by some type of prepaid dental care plan," D. J. Galagan, Assistant Surgeon General and chief of the Division of Dental Public Health and Resources, U. S. Public Health Service, reported recently. "There has been an increase both in the number of persons covered and in the number of plans. For example, in 1960 some 550,000 had coverage under dental prepayment plans compared with more than 1,145,000 today. Over the same period the number of plans has more than doubled from 125 to 296." The plans are located in 30 states and Puerto Rico.

While the number of persons covered by dental prepayment programs does not approach the more than 140 million Americans who have some form of hospital or medical insurance, Dr. Galagan considers the recent growth as encouraging.

### FLUORIDATION PROGRESSES IN WESTERN PACIFIC AREA

Fluoridation has recently made new gains in countries of the western Pacific region. The measure is already in effect in the main cities of Hong Kong and Singapore; Yamashina, Japan; three towns in Sarawak; and communities in Australia and New Zealand.

A 74 per cent caries reduction in six-year-olds after six years of fluoridation in Hast-



ings, fluoridation pioneer in New Zealand, has given impetus to the measure throughout that country. Four towns are already fluoridating and the capital city is almost ready to begin.

In Australia, five communities have actually started fluoridation and others have approved the measure or are awaiting installation of equipment. Beaconsfield in Tasmania was the first city to fluoridate in 1953.

In 1962 the National Health and Medical Research Council, Australia's highest medical authority, recommended that "public authorities give early consideration to the necessity for fluoridation of their water supplies."

After eight years, fluoridation in Yamashina, Japan, resulted in caries reduction ranging from 18 to 34 per cent in children aged six to 13. This reduction is less than North American experience because of differences in eating habits and living conditions. Another reason is that only 0.6 ppm of fluoride was added to the water in the Japanese project rather than 1 ppm.

Director of Dental Health Services for Sarawak, K. S. Yim, predicts that by the end of 1964 everyone in that country should be provided with fluoridated water supplies. Three towns presently have fluorides in the water supplies. Sarawak, a former British crown colony of 750,000 people on the north coast of Borneo, is now a province of the Federation of Malaysia.

The importance of fluoridation to the Asian-Pacific area has been stressed by the secretary-general of the Asian-Pacific Dental Federation, B. B. Eraña of the Philippines. Dental caries, he said, "ranks high as a public health problem in the area and it becomes impossible for a very limited number of trained personnel to render definitive dental care for a fast-growing population here."

In addition to treating water to protect against waterborne diseases, Dr. Eraña said necessary improvement of water supplies "should include a program of fluoridation wherever possible so that protection and promotion of health may be more completely attained."

## CALIFORNIA DENTAL PLAN GROWS

California Dental Service, a profession-sponsored dental service corporation, reports 30 dental service plans in operation covering 500,000 of the state's residents. Additional plans are being negotiated. The corporation had plans covering 9,400 persons at the end of 1961 and 70,000 at the end of 1962. Dentist membership now includes 6,267 of the state's 9,000 practising dentists.

## Dental Organizations

### VANCOUVER ISLAND SOCIETIES MEET

Two British Columbia dental societies held a joint meeting in September at the Qualicum Beach Inn. The dentists of Victoria and the Upper Vancouver Island area listened to John Gehrig, chairman of the Department of Oral Surgery at the University of Washington, who spoke on anti-infective agents, analgesics, sedatives and tranquillizers. The dentist may be required to initiate action to prevent or treat serious emergencies, but most untoward reactions can be prevented by taking a careful medical history and making a physical evaluation prior to the dental operation. The treatment aspect of emergencies was given in detail, followed by a short discourse on anaphylactic shock and a motion picture on external cardiac massage.

### B. C. SCHOLARSHIPS AND BURSARIES AWARDED

Dean Walter Gage of the University of British Columbia has announced that the winner of the British Columbia Dental Association annual scholarship of \$250 is Irving Lee Gislasen of Lake Cowichan. The three bursaries of \$250 each were won by J. A. Mathews of Trail, L. B. Benda of Vancouver, and C. K. Naylor of Vancouver. All four students will attend the University of Alberta to study dentistry.

### BERMAN IS PRESIDENT OF EASTERN ONTARIO DENTISTS

J. Berman of Ottawa was named president of the Eastern Ontario Dental Association when the group held their annual meeting at the Seignior Club, Montebello, P. Quebec, September 16-18. Elected to the executive for 1963-64 were: H. B. Squires, Ottawa, past president; A. C. Murchison, Ottawa, vice-president; and K. L. Hargadon, Ottawa, secretary-treasurer.

Named to the advisory board of the Eastern Ontario Dental Association for 1963-64 were: J. A. Whyte, Albert Vachon, William Gallagher, D. L. Bigelow, N. C. Baird, and J. C. Cummings, all of Ottawa; also, J. D. Lamping of Pembroke and F. C. Buschlen of Arnprior. J. C. W. Broom of Kingston and

W. L. Durant of Brockville were named auditors.

### HALIFAX DENTISTS BEGIN WINTER PROGRAM



H. L. Sable

The fall and winter program of the Halifax County Dental Society opened on a social note when the members held their annual dinner in September. President H. L. Sable and other officers of the society welcomed the many guests who attended.

### NOVA SCOTIA DENTISTS WELCOME C.D.A. PRESIDENT AND SECRETARY

Canadian Dental Association president James Zimmerman and secretary Don W. Gullett attended a meeting of the Nova Scotia Dental Association on November 7. Dr. Zimmerman and Dr. Gullett were in Halifax in connection with the president's annual visit to dental organizations in the eastern provinces.

Plans are being made to entertain D. Greer Walker, president of the British Dental Association, on March 16 and 17, 1964. Dr. Greer Walker will visit Halifax at that time as part of a tour of Canadian dental organizations and institutions.

### WORTH SPEAKS AT RADIOLOGY CONFERENCE

The Eleventh Annual Roentgenology Workshop was held in Vancouver, August 16-18. Forty participants attended from California, Oregon, Washington, Idaho, the U. S. Public Health Service and British Columbia.

H. M. Worth of Victoria gave a detailed presentation on radiological considerations

of cysts of the jaws. R. J. O'Neil of Vancouver spoke on the adaptation of radiological technique to paedodontics. Simon Kinsman of the U. S. Public Health Service lectured on "Radiation Simplified." Other speakers were James Miller and K. S. Winkler of the U. S. Public Health Service, A. E. Swanson, M. J. Waterman and E. I. Slakov of Vancouver.

### DERMATOLOGIST ADDRESSES MONTREAL DENTAL CLUB

L. T. Strean, a 1923 graduate of the Faculty of Dentistry, McGill University, who is currently clinical instructor of the dermatology clinic of Hahnemann Medical College and Hospital, Philadelphia, addressed the September meeting of the Montreal Dental Club. This meeting coincided with the fortieth reunion of the 1923 graduating class of McGill University's dental school.

After some years of dental practice, Dr. Strean's interests turned to bacteriology and biochemistry. His present studies involve trigger mechanisms in birth defects and autoimmune mechanisms in dermatological lesions of obscure aetiology.

### Royal Canadian Dental Corps

#### BRIGADIER BAIRD VISITS CORPS SCHOOL

Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces visited the Royal Canadian Dental Corps School, Camp Borden, Ontario, on September 20 to interview officers attending the Captain to Major Qualifying Course.

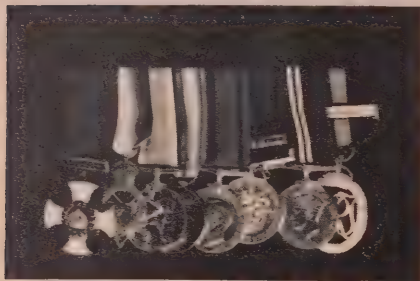
#### LT.-COL. BLAIR MEMORIAL

A portrait and the medals of the late Lt.-Col. J. F. Blair, D.S.O., E.D., mounted as a memorial, were presented to the Corps by Lt.-Col. A. J. Harris, Commanding Officer of No. 55 Dental Unit R.C.D.C.(M) during the annual dinner of the Royal Canadian Dental Corps Association.

Lt.-Col. Harris paid tribute to the devoted service of Lt.-Col. Blair, who served during both world wars and was one of the very



LT.-COL. JOHN FREEMAN BLAIR DSO ED RDC



Portion of memorial to Lt.-Col. J. F. Blair

few to be decorated for conspicuous gallantry in the field as a dental officer.

In accepting the memorial, which will be hung in the Royal Canadian Dental Corps School library at Camp Borden, Ontario, Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces, expressed appreciation to Lt.-Col. Blair's family and to No. 55 Dental Unit.

### LT.-COL. RAMSAY IS PRESIDENT OF CORPS ASSOCIATION

Lt.-Col. G. L. Ramsay was elected president for the year 1963-64 when the Royal Canadian Dental Corps Association held its Fifteenth Annual Meeting in Ottawa, September 12-14. Named as officers were Lt.-Col. W. G. Campbell, immediate past president; Lt.-Col. A. Z. Henry, president-elect; Lt.-Col. M. J. Snidal, first vice-president; Lt.-Col. A. J. Harris, second vice-president; Lt.-Col.

C. E. Woods, treasurer; and Col. C. B. H. Climo, secretary.

Two honorary presidents, Col. L. E. Kent and Col. W. Meldrum, elected last year, serve for a period of three years.

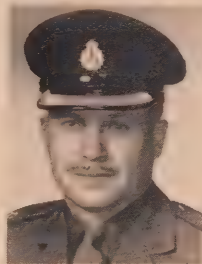
Brigadier W. S. Rutherford, speaking on "Corps associations," addressed the annual dinner of the Royal Canadian Dental Corps Association at the Royal Canadian Air Force Mess in Ottawa.

### THREE DENTAL OFFICERS PROMOTED

Dental officers who were recently promoted include: Col. R. H. G. Cunningham, Command Dental Officer, Eastern Command and Commanding Officer, No. 12 Dental Company, Halifax; Lt.-Col. J. C. Brick, senior clinician at No. 1 Dental Clinic, Air Force Headquarters, Ottawa; and Lt.-Col. L. R. Pierce, senior clinician, H.M.C.S. Naden, Esquimalt, British Columbia.



Col. R. H. G. Cunningham



Lt.-Col. J. C. Brick



Lt.-Col. L. R. Pierce

## CORPS OFFICER TAKES PUBLIC HEALTH COURSE

Major W. H. Harrington, who recently completed a tour of duty in Europe, is attending a postgraduate course in public health dentistry at the School of Hygiene and Faculty of Dentistry, University of Toronto.

## RELEASES

The following officers have taken their release from the Corps and returned to civilian life: Capt. J. G. Boucher, Capt. J. R. Boulay, Capt. J. M. M. Houde, Capt. C. D. Mollins and Capt. W. F. Shaw.

## Public Health

### TORONTO STARTS FLUORIDATION

Fluoridation came to Metropolitan Toronto on September 4, nine months and one day

after a successful plebiscite covering its 13 area municipalities. Toronto is believed to be the largest city ever to institute fluoridation as the result of a plebiscite. Since Toronto's population totals 1.6 million, the national figure for Canadians drinking fluoridated water is now almost 3.8 million.

## Canadian Dental Schools

### UNIVERSITY OF TORONTO

E. C. Purdy has been appointed associate professor in the Faculty of Dentistry, and will be responsible for organizing and directing a program to train dental students in the more effective use of dental assistants. Dr. Purdy retired earlier this year from the Royal Canadian Dental Corps School at Camp Borden, where he was colonel and commandant.

Promotions have also gone to E. N. Madlener, to associate professor, and to K. W. Davey and F. Popovich, to assistant professors.

## book reviews

### HANDBOOK OF ORTHODONTICS

Robert E. Moyers. Ed. 2. Chicago, Year Book Medical Publishers, Inc., 1963. 599 p. Illus. \$11.00

The second edition comprises 599 pages compared to 498 in the first edition. The book is divided into three sections—growth, diagnosis and treatment.

The section on growth contains an excellently organized description of the growth of the cranio-facial skeleton. New material has been included on such topics as methods of studying facial growth and the relation of facial growth to bodily growth. The chapter

on the development of the dentition and occlusion has been elaborated by the addition of electromyograms to demonstrate muscle activity during the various functional positions of the mandible and during swallowing. The chapter on aetiology of malocclusion is well planned and has been altered very little in the second edition.

In the section on diagnosis, the chapter on the orthodontic examination has been reorganized. More emphasis has been rightly given to the value and application of the mixed dentition analysis. A new facial form analysis has been introduced. Other brief topics which have been added are the technique and use of cephalometry, methods of



registering jaw positions, periodontal response to orthodontic forces, root resorption, anchorage, and retention.

The final section on treatment is also well organized but attempts to cover too much. This reviewer feels that many of the appliances used in illustrations, e.g. acrylic incline plane, excessively long stainless steel crowns, space-regainers with acrylic saddles, are not representative of the most efficient devices for the intended treatments.

In the chapter on technics, the method of fabricating several complicated appliances, e.g. removable lingual archwires, labial archwires, Andresen appliances, etc., is covered in detail. The author has probably included this material for general information. It is doubtful if complicated devices contribute much practical value to a handbook of orthodontics for the general practitioner.

In summary, the book is well organized and would be most useful to the teacher of undergraduate orthodontics. It is probably one of the best orthodontic texts available for the dental student and general practitioner. The section on treatment attempts to cover too much. Perhaps more space could have been allocated to areas of greatest interest and need of the general practitioner.

R. D. Haryett

## DENTIST'S HANDBOOK OF OFFICE AND HOSPITAL PROCEDURES

Saul Levy. Chicago, Year Book Medical Publishers, Inc., 1963. 311 p. \$4.00

As the title states this is a handbook. It was originally prepared for the Michael Reese Hospital and Medical Centre. After an enthusiastic reception it was then published on a national scale.

The book covers most branches of dentistry in a generally limited and condensed manner; and therefore it is to be used as a guide or convenient reference for which it is intended.

The division of subject matter is well organized, and special emphasis is placed on material more pertinent to hospital treatment and care.

Detailed writing on any phase is not present, although certain chapters such as oral surgery and hospital procedures are given somewhat more extensive coverage. The sections on medical emergencies, diagnosis and the handicapped are also well reviewed. On the other hand chapters covering crown and bridge prosthodontics and operative dentistry are extremely brief.

The fine print and lack of illustrations detract from the value of the book.

By definition a handbook is a compact reference on some subject. To attempt to condense dentistry into 311 pages is a feat unto itself and as such the author has done well.

A. J. Schutz

## BLACK'S MEDICAL DICTIONARY

W. A. R. Thomson. Ed. 25. London, A. and C. Black Ltd., 1963. (Available from Macmillan Co. of Canada Ltd., Toronto) 1014 p. Illus. \$7.20

This book is designed for the layman's interest and use where qualified medical persons are not available. It is a non-technical dictionary of medical terms and conditions that is helpful in giving first-aid in cases of accidents, of poisoning, problems in sanitation and in consideration of some common symptoms of disease. The author has purposely omitted discussions on diagnosis as they necessarily depend on professional training.

There are six pages devoted to dental conditions that unhappily perpetuate terms such as "Rigg's disease" and "tooth fang." Also three of the diagrammatic anatomical drawings leave much to be desired.

The text as a whole is below the professional man's level, but the layman will find much useful material.

H. A. Hunter

## THE ROLE OF FLUORIDE IN PUBLIC HEALTH: THE SOUNDNESS OF FLUORIDATION OF COMMUNAL WATER SUPPLIES

Irene R. Campbell. Kettering Laboratory, Department of Preventive Medicine and Industrial Health, College of Medicine, University of Cincinnati. 1963. 108 p.

This book presents well condensed abstracts of many reliable publications on fluorine (fluoride ion). The reader will be impressed early in its pages with the fact that each article has been critically evaluated.

To this reviewer's delight each abstract has culled from the original publication much specific information which has been condensed in each instance in a few sentences.

The book has been arranged into a logical sequence for the reader's convenience. It contains an excellent glossary of terms often encountered in the literature on fluorine. A complete author and subject index is contained in its pages which fact would materially facilitate speedy reference at any time

on many aspects of the therapeutic use of fluorine by man.

An intensive perusal of its pages will afford the practising dentist a fairly comprehensive knowledge of the authentic writings on this subject.

The writings within this book afford the public health worker the necessary answers to most questions presented by the layman.

The author is to be congratulated for this presentation — a commendable, condensed publication covering a wide range of the fluorine studies.

H. S. Grey

## WHO'S WHO IN AMERICAN DENTISTRY

A. J. DeBré, Ed. Los Angeles, Dale Dental Publishing Co., 1963. 198 p. \$25.00

This is a reference volume containing the listings of 5,500 American dentists. Biographical sketches accompany more than 1,000 of these listings. The book may have some value for dental society officers who seek American essayists or clinicians for convention programs and other scientific presentations.

F. H. Compton

## CURRENT CLINICAL DENTAL TERMINOLOGY

C. O. Boucher. St. Louis, Mosby, 1963. 501 p. \$11.00

Except for *Heinemann's Modern Dictionary for Dental Students* by J. E. H. Fowler, published in 1962, the last major dental dictionary, *A Dictionary of Dental Science and Art*, by Dunning and Davenport published in 1936, has long been out of print. The publication of this volume would appear therefore to fill a great gap in our literature. For this alone we must be grateful to the publishers and editor, for it is no mean task to compile such a work. From the bold type title we must conclude that this volume is concerned with terms commonly used in clinical dentistry which are peculiar to this branch of medical science. The fact that this consumed over 400 pages of type without any illustrations would seem to infer that either the dental vocabulary has grown to tremendous proportions or that more than purely dental terms have been included. The foreword states that a recent survey showed that just over 700 dental and scientific words accounted for 80 per cent of the professional terms used in the dental journals. This volume must have close to 10,000 words listed.

There seems to be a remarkable discrepancy between these two figures, even allowing for the fact that it is the place of a dictionary to cover this last 20 per cent of not so commonly used terms.

The book is divided into three parts. The first and main part consists of over 400 pages of an alphabetical listing of words and terms used in clinical dentistry. Throughout this part of the book the editor has taken words and terms, defined them, and at the end of each has placed in brackets either the discipline this term applies to or from which it has been taken. This last refinement would seem unnecessary and in some cases distorts the picture. For example, the first definition of a "tooth" has the parenthetical notation: (Comp. Prosthodont; Remov. Part. Prosthodont.). This reviewer always thought that a tooth was an anatomical structure. If the editor wished to go further, as he has done, then there is no mention of porcelain teeth, under the heading "tooth, teeth."

In many places three or four so-called definitions or descriptions of words and terms are given. If the word or term could mean two or three entirely different things, then this procedure is quite justifiable. But when in essence they are the same then this surely only confuses the issue. In such instances surely the editor would have been on stronger ground to subdivide his definition or description under two headings: "clinical, histological."

Some authorities might argue that many of the words and terms included in this volume could be better looked up in either a medical or general dictionary. In this regard it appears that the editor has not been selective enough and pruned away unnecessary material, and on the other hand he has not come to a decision as to the best way of defining or describing many of the terms. When one sees an entry such as "itching, tickling and (see tickling and itching)," one wonders where the decision was made to include or discard terms, for such an entry as this is ludicrous. Furthermore, the definition given for "tickling and itching" is a most peculiar one.

There are also a number of illogical entries. One would hardly ever think of turning to a dictionary of clinical dental terminology to find "mortgage," "jury," "moot," "opinion." Certain well-known terms in some fields have been included while comparable ones in other areas have been omitted. "Endodontology" is in, while "prosthodontology" and "periodontology" are out. Whether this is an oversight or intentional is impossible to say, but it detracts still further from the value of the book. What is of greater concern, however, is the omission from the book of many widely accepted and

commonly used terms in clinical dentistry, e.g. "S.N.A.," "S.N.B. points," "skeletal patterns in malocclusion," "dental base relationships," "Kostecka operation." In such a volume as this it would have been wiser to omit many of the general and medical terms and make sure that current dental terminology was carefully recorded and defined. The editor has in many places inserted terms and noted the fact that he finds them objectionable. Though many people may disagree with him on individual points, at least he comes to a decision and gives an alternative. He is to be commended for his courage in this regard, even if sometimes discretion appears to go out of the window. Although this first section is meant to be all-inclusive, there are many omissions and discrepancies that make this work of doubtful value to the readers and writers of the dental literature.

The second part is most unusual and it is difficult to judge quite what the editor hoped to achieve in this section. Words and terms are listed under what the editor terms disciplines. The reviewer could hardly agree with these arbitrary divisions when oral biochemistry, oral histology, oral bacteriology, and oral anatomy are excluded, while oral physiology and oral pathology are included. There are no running headings at the top of these pages to help find one's way about quickly. Besides this there are many inconsistencies. Why should penicillin and pentobarbital sodium be under periodontics and not pharmacology? It is to be hoped that the publisher will persuade the editor to omit this section completely in the next edition.

The third section consists of a short appendix of tables which is so incomplete in the biological sciences as to be practically useless. It does not add to the value of the book at all and could be dropped without any difficulty.

The publisher has, on the whole, done a commendable job. There is a stout flexible cover; the book is a nice size and a pleasure to handle. The type is clear and there appear to be very few typographical errors. The paper and binding are of a high quality and the price for such a volume must in these days be considered reasonable.

No doubt this book will find its way onto library shelves the world over. Undergraduates, graduates, scholars and writers will turn to it, but may come away disappointed, for it is "neither fish, flesh nor good red herring." The editor must make up his mind whether this is a dictionary of clinical terms or not. If it is not, then he must include all the sciences related to dentistry. If it is, then he must prune a lot of material out of this volume and be more selective of his terms. At the same time he should be certain to be far more inclusive of dental terms than at present. If this is to become a standard work in the English language, then more cognizance must be taken of all those who practise the science and art of dentistry and write about it.

We must be grateful to the editor and his collaborators and contributors for presenting such a book to the dental community. Let us hope that it will inspire other authors.

*J. R. Trott*

## additions to the library

BEVELANDER, G. Outline of histology. Ed. 5. St. Louis, Mosby, 1963. 332 p. illus. \$6.40

BOUCHER, C. O. Current clinical dental terminology; a glossary of accepted terms in all disciplines of dentistry. St. Louis, Mosby, 1963. 495 p. \$11.90

CAMPBELL, I. R. The roll of fluorine in public health; the soundness of fluoridation of communal water supplies. Cincinnati, Kettering Laboratory, University of Cincinnati, 1963. 108 p.

HAATAJA, J. Cephalic, facial and dental growth in Finnish children; a cross-sectional study. (Suom, hammaslaak. toim., v.59, suppl. 1, 1963.) 114 p. illus.

KANTOROWICZ, G. F. ed. Inlays, crowns and bridges. Bristol, John Wright & Sons Ltd., 1963. 174 p. illus. \$5.85

REICH, W. T. Theodor Blum, D.D.S., M.D. New York, New York Institute of Clinical Oral Pathology, 1963. 88 p.

TAMMISALO, E. H. A stereoporthopanto-

mographic study of the canalis mandibulae, its foramina and branches. (Suom. hammaslaak. toim., v.59, suppl. I, 1963.) 98p. illus.

THOMPSON, SIR D'ARCY. On growth and

form, edited by John Tyler Bonner. Cambridge, University Press, 1961. 346 p. illus. \$5.50

WARD, F. A. A primer of pathology. Butterworths, London, 1962. 116 p. \$3.50

## correspondence

*The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.*

### SERVICE IN ROYAL CANADIAN DENTAL CORPS

To the Editor:

For your information and in the interests of accuracy I wish to point out the following from news published in your Journal (J. Canad. D.A. 29:540, August 1963): Major J. G. Andrews did not serve 22 years continuous service in the Canadian Dental Corps as you claim. He took his discharge after the war

and after trying private practice he re-enlisted a year or two (or more?) later.

L. A. Redfern,  
3837 West 38th Street,  
Vancouver, B.C.

To the Editor:

In reference to the item concerning length of service of Major J. G. Andrews contained in our submission for the August 1963 issue of the *Journal of the Canadian Dental Association* and commented upon by Mr. L. A. Redfern, this should have read: "... after over 19 years of service in the Royal Canadian Dental Corps."

The Royal Canadian Dental Corps is most anxious to maintain accuracy in their releases and deeply regrets the error in this instance.

D. H. Hillier, Lt.-Col.,  
(for K. M. Baird, Brigadier),  
Director General of Dental  
Services for the Canadian  
Forces.

*French Language in Europe and America* • French is the fourth most widely used language in Europe where it is native to 55 million people in France, Belgium, Switzerland, Luxembourg and the Valley of Aosta in northwestern Italy. French is also the fourth most widely spoken language in America where it is native to six million Canadians and 3.5 million people in the Republic of Haiti. French occupies second position at the United Nations, after English. — Jacques Capelovici, Revue de la Confédération des Travailleurs Intellectuels.



## in memoriam

**HOWARD JAMES MERKELEY**—Dr. H. J. Merkeley of Winnipeg, Manitoba, died on September 4, 1963. He was 76. Dr. Merkeley was born in Chesterville, Ontario, in 1886. He received his early education at Morrisburg Collegiate and graduated from the Royal College of Dental Surgeons of Ontario in 1911. In professional life Dr. Merkeley served as president of the Winnipeg Dental Society, president of the Manitoba Dental Association, and registrar and president of the Western Canada Dental Society. From 1948 to 1949 Dr. Merkeley was president of the Canadian Dental Association. He was the first president of the National Dental Examining Board of Canada. Some years ago he was made a fellow of the American College of Dentists. When Winnipeg's new dental school was opened in 1960 the University of Manitoba conferred on Dr. Merkeley an honorary degree of Doctor of Laws. In 1963 he became an honorary member of the Canadian Academy of Prosthodontics. Dr. Merkeley is survived by his wife, Eileen; two sons, Dr. Norman P. of Winnipeg and Dr. Donald K. of Seattle, Washington; a daughter, Lois Youngson of Vancouver, British Columbia; 15 grandchildren; and a sister, Mrs. C. L. Fulton of Durban, South Africa.

**ARNOLD WILSON ADAMS** — Dr. A. W. Adams of Montreal died on September 15, 1963. He was 58. Dr. Adams was born in Magog, P. Quebec, in 1905 and graduated from McGill University in 1929. He was a member of the Montreal Dental Club and was associated for many years with the dental clinic of the Montreal General Hospital. Besides his wife, Elsie, Dr. Adams is survived by a brother, Dr. L. J. Adams of Montreal, and two sisters, Mrs. Beatrice McGerrigle of Ormstown, P. Quebec, and Mrs. Aldeth Clark of Preville, P. Quebec.

**J. ROLAND BROSSARD**—Le Dr J. R. Brossard de Montréal, âgé de 57 ans, est décédé subitement le 7 septembre 1963 à sa résidence d'été de Ville Brossard. Il était né à Laprairie, P. Québec en 1906. Le Dr Brossard obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1928. Il fut gouverneur du Collège des Chi-

rurgiens-Dentistes, et il était président du bureau des services dentaires du Québec. Il laisse dans le deuil son épouse, Céline; deux filles, Mme Jacques Forest de Trenton, Ontario, et Mme Guy Marcil de Tracy; sa mère, Mme Henri Brossard; sa sœur, Révérende S. S. Justina C.N.D.; ses frères, le Juge Ariste, Georges-Henri (maire de Brossard), Noé, Guy, Marcel, et Léo; et quatre petits-enfants.

**WILLIAM JOHN CAMERON** — Dr. W. J. Cameron of Palmerston, Ontario, died on September 11, 1963. He was 82. Dr. Cameron was born in Cranbrook, Ontario, in 1880. He received his early education in Stratford, and following graduation from the Royal College of Dental Surgeons of Ontario in 1905 he settled in Palmerston where he practised for 57 years. Dr. Cameron retired in 1962. He was an honorary life member of the Royal College of Dental Surgeons of Ontario. Surviving Dr. Cameron are his wife, Caroline, and one sister, Mrs. George Whitlock of Moose Jaw, Saskatchewan.

**ARTHIAS HEYNEMAND**—Le Dr A. Heynemand de Montréal, âgé de 69 ans, est décédé au mois de septembre, 1963. Il était né à Lanoraie, P. Qué., en 1894. Le Dr Heynemand obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1917.

**ROBERT CRAIG HUTCHISON** — Dr. R. C. Hutchison of Toronto died on September 28, 1963. He was 47. Dr. Hutchison was born in Whitby, Ontario, in 1916 and graduated from the University of Toronto in 1941. He is survived by two sons, Robin and Ian.

**VERNE LANE**—Dr. V. Lane of Regina, Saskatchewan, died on September 13, 1963. He was 65. Born in Regina in 1898 Dr. Lane received his early education in that city and graduated from McGill University in 1923. During World War I he served overseas with the Canadian Army Service Corps. Besides his wife, Hilma, Dr. Lane is survived by a daughter, Mrs. W. D. Crowe of Vancouver; two sons, Ian Verne and Thomas Carlton of Regina; four sis-

ters, Mrs. C. W. Bell of Saskatoon, Mrs. Charles Green of Regina, Mrs. J. D. Kemp and Mrs. W. R. Martyn, both of Vancouver; two brothers, Harry of Mair, Saskatchewan, and Jack of Winnipeg; and two grandchildren.

ARMAND MASSICOTTE—Le Dr A. Massicotte de Montréal, âgé de 70 ans, est décédé au mois de septembre, 1963. Né à Montréal, le Dr Massicotte obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1917.

JAMES PERCY LEIGHTON — Dr. J. P. Leighton of Toronto, Ontario died on August 22, 1963. He was 68. Dr. Leighton was born in Orangeville, Ontario, in 1895 and graduated from the Royal College of Dental Surgeons of Ontario in 1923. Besides his wife, Margaret, he is survived by a daughter, Mary Elizabeth; a brother, Joseph M.; and a sister, Mrs. C. C. White.

GEORGE ARTHUR McDONALD—Dr. G. A. McDonald of Castlegar, British Columbia, died on August 16, 1963. He was 81. Dr. McDonald was born in Galt, Ontario, where he received his preliminary education and later graduated from the University of Toronto. He practised in Yorkton, Saskatchewan and later went to Melville and Arcola. Surviving Dr. McDonald are two daughters, Mrs. G. W. Anderson of Castlegar and Mrs. I. A. Duer of Fullerton, California.

GUY REGINALD MURRAY—Dr. G. R. Murray of Hardisty, Alberta, died on September 3, 1963. He was 74. Dr. Murray was born in Strathroy, Ontario, in 1889. Following graduation from the Royal College of Dental Surgeons of Ontario in 1917, he first practised in Edmonton. In 1918 he went to the Sedgewick-Hardisty area of Alberta where he continued to practise until 1962. Dr. Murray is survived by his wife, Murel; a daughter, Jeanette of Calgary; and two sons, David of Calgary and Robert of Edmonton.

conventions

## Canadian Academy of Prosthodontics meets in Toronto, November 27, 1963

The first clinical meeting of the Canadian Academy of Prosthodontics will take place at the Royal York Hotel, Toronto, on Wednesday, November 27, 1963. Further information may be obtained from W. G. Woods, secretary-treasurer, Suite 62, 2 Bloor Street East, Toronto 5, Ontario.

## announcements

### CANADIAN DENTAL ASSOCIATION

|      |             |                |
|------|-------------|----------------|
| 1964 | Edmonton    | June 28-July 1 |
| 1965 | Quebec City | May 30-June 2  |
| 1966 | Halifax     | June 12-15     |
| 1967 | Toronto     | May 14-17      |

### FÉDÉRATION DENTAIRE INTERNATIONALE

|               |                |
|---------------|----------------|
| San Francisco | November 9-12  |
| Vienna        | June 26-July 3 |
| Israel        |                |
| Paris         |                |

### FUTURE EVENTS

| Date                 | Function                                             | Location                                       | Officer                  | Address                                            |
|----------------------|------------------------------------------------------|------------------------------------------------|--------------------------|----------------------------------------------------|
| Nov. 17-22, 1963     | VIIIth Mexican Dental Congress                       | Mexico City, Mexico                            | Dr. R. Sanchez-Woodworth | Sinaloa No. 9, México 7, D.F., Mexico              |
| 25 nov.-1 déc., 1963 | XXXVIIth Journées Dentaires Internationales de Paris | Maison de la Chimie, Paris                     | M. Henri Huguet          | 33 ave Pierre 1er de Serbie, Paris 16e, France     |
| Nov. 28, 1963        | Annual Winter Clinic Academy of Dentistry            | Royal York Hotel, Toronto                      | Mrs. N. H. Montgomery    | 230 St. George Street, Toronto 5, Ont.             |
| Feb. 1-8, 1964       | Third Caribbean Dental Convention                    | Trinidad Hilton Hotel, Port-of-Spain, Trinidad | Dr. A. V. Awon           | 43-45 Frederick Street, Port-of-Spain, Trinidad    |
| Mar. 1-7, 1964       | First Ibero-American Endodontic Congress             | National University, Mexico City               | Dr. F. Romero Castany    | Calle Hamburgo 250, México 6, D.F., Mexico         |
| May 21-23, 1964      | British Columbia Dental Association                  | Queen Elizabeth Theatre, Vancouver             | Dr. W. R. Upton          | 325-925 West Georgia Street, Vancouver, B.C.       |
| May 24-29, 1964      | 17th Australian Dental Congress                      | Perth, Western Australia                       | Dr. K. F. Henderson      | 242 St. George's Terrace, Perth, Western Australia |

### POSTGRADUATE AND REFRESHER COURSES

TORONTO—The Department of Endodontics, Faculty of Dentistry, University of Toronto offers a postgraduate course in ENDODONTICS, February 19-21, 1964. The course will include illustrated lectures showing techniques of endodontic procedure. Instrument manipulation clinics will be followed by demonstration operations on patients. The course will be directed by G. C. Hare. Tuition fee \$60.

Enquiries and requests for application forms should be directed to the chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

ALABAMA—January 11-13, 1964—Practical Approach to Full Denture Problems

ALABAMA—January 25-26, 1964—Basic Periodontal Procedures for General Practitioners

MICHIGAN—January 6-10, 1964—Occlusal Equilibration

MICHIGAN—January 6-17, 1964—Complete Denture Prosthesis

MICHIGAN—January 27-31, 1964—Clinical Paedodontics

NORTHWESTERN—January 13-15, 1964—Functional and Cephalometric Analyses of Occlusal Disharmonies

NORTHWESTERN—January 29-31, 1964—Precision Castings by Direct and Indirect Methods

NORTHWESTERN—January 30-31, 1964—Restorative Dentistry for Children

OHIO—January 13-17, 1964—Periodontics

OHIO—January 27-28, 1964—Dental Hygiene

TEMPLE—January 6-10, 1964—Implant Dentures

TEMPLE—January 13-17, 1964—Modern Procedures for Oral Rehabilitation

TEMPLE—January 22, 1964—Dental Materials as Applied to Clinical Dentistry

Note • Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.

*L'Association Dentaire Canadienne*

Volume 29

Numéro 11

Novembre 1963

JOURNAL

*The Canadian Dental Association*

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**Rapport annuel de la Ligue d'hygiène dentaire  
de la province de Québec**

*par Ephrem Vinet, D.D.S., Montréal, P.Qué.*

Dans un effort conjugué de tous ses membres, entraînés à ce travail par plusieurs années de coopération, elle a tenté de couvrir tout le champ de l'hygiène dentaire publique et se flatte d'y avoir réussi, compte tenu des limites imposées par son budget et par la pénurie de son personnel. Par tous les moyens mis à sa disposition, cours, conférences, radio, télévision, journaux, revues, projections cinématogra-

phiques, elle a essayé de faire l'éducation du public en hygiène dentaire. Elle a, en plus, prêté son concours partout où il était utile à la cause de l'hygiène et à celle de la profession. Lors de l'assemblée générale annuelle de la Ligue, le registraire exprimait sa satisfaction pour la collaboration apportée au Collège et le Dr Henri Tourigny, qui représentait officiellement à l'assemblée l'Honorable Ministre de la santé, affirma qu'il ferait au Ministre un rapport très élogieux du travail accompli par la Ligue.

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Pour la période du 1er avril 1962 au 31 mars 1963.



## COURS ET CONFÉRENCES

Nombre de cours et conférences donnés: 711

Ces cours et conférences furent donnés à ceux qui peuvent le plus en profiter et les transmettre ou même l'appliquer aux jeunes enfants chez qui l'hygiène dentaire est la plus efficace. Ce sont: l'Ecole d'hygiène et la Faculté de chirurgie dentaire de l'Université de Montréal, les écoles d'infirmières, les écoles normales, les instituts familiaux, les scolasticats, les écoles moyennes familiales et, en collaboration avec le service de santé de la Cité de Montréal, les écoles primaires et secondaires de cette ville.

En dehors des écoles, des conférences furent données à des réunions de parents et instituteurs, à des clubs sociaux tels que: Richelieu, Kiwanis, Rotary, Lions, etc., à des conseils municipaux, à des associations de citoyens, à des associations de producteurs de lait, à des cours de préparation au mariage, à des associations et sociétés médicales, paramédicales et dentaires.

Nombre d'écoles, associations et groupements: 244.

Nombre d'auditeurs: 30,788.

## RADIO ET TÉLÉVISION

Causeries, conférences, interviews, forums à la radio et à la télévision: 1,643.

Nombre de postes qui ont prêté leur concours: 25.

La télévision, un des moyens les plus populaires d'éducation de nos jours, semble apprécier de plus en plus les éducateurs de la Ligue. Aussi leur ont-ils accordé, cette année, 72 émissions, plus du double des émissions accordées l'an passé.

## JOURNAUX ET REVUES

Chaque semaine la Ligue a fait parvenir un communiqué à 138 journaux.

Un grand nombre de ces journaux quotidiens de la province, en particulier le quotidien de Montréal, *La Presse*, les ont

régulièrement publiés. La Ligue se prépare en ce moment à rajeunir cette formule qui se contentait de répondre à des questions. Prochainement ces communiqués prendront la forme d'une série d'articles couvrant tous les aspects de l'hygiène dentaire.

En plus de ces communiqués, les spécialistes en hygiène dentaire de la Ligue ont, chacun dans sa région, préparé et adressé aux journaux et revues des articles d'éducation en hygiène dentaire destinés à informer le public de tout ce qui peut concerner la prévention des maladies des dents et des gencives.

Nombre d'articles: 632.

Total des articles et communiqués expédiés aux journaux: 7,808.

## LITTÉRATURE DISTRIBUÉE

Résumés de cours distribués à titre d'aide-mémoires pour faciliter aux éducateurs et futurs-éducateurs leur enseignement de l'hygiène dentaire: 5,183.

Littérature distribuée à la suite de causeries, conférences, cours, démarches auprès des autorités municipales et scolaires: 152,052.

Dépliants requis par la profession: 24,173.

Dépliants distribués à la suite de demandes personnelles de la part du public: 3,026.

Divers autres dépliants distribués dans des écoles: 24,288.

Total: 208,722.

## CORRESPONDANCE ÉDUCATIVE

La Ligue a reçu, en moyenne, cinquante lettres par semaine du public. La majeure partie demandait de la documentation sur l'hygiène dentaire. Lettres reçues à ce titre: 2,600.

Un nombre assez considérable de lettres, environ trente par mois, requéraient des réponses assez longues et détaillées aux multiples questions posées par de futures mères ou par de jeunes mères sur les mesures à prendre au sujet de leur propre

hygiène dentaire et celle de leur enfant. Lettres reçues à ce titre: 360.

Les lettres reçues au courrier de la "Clinique dentaire" du poste CKAC ont permis au représentant de la Ligue d'alimenter le programme de cette émission hebdomadaire de ce poste de radio et des postes qui lui sont affiliés. Le nombre de demandes reçues résultant des émissions de ce seul poste se chiffrent à 426.

#### MESURES D'HYGIÈNE DENTAIRE PUBLIQUE

La Ligue est heureuse d'annoncer que les démarches qu'elle a faites pour éliminer, en certains endroits, la vente des sucreries dans les écoles, semble avoir été fructueuse. En effet, les journaux de la métropole annonçaient récemment qu'il n'y aurait plus de vente de liqueurs douces dans les écoles de Montréal et des Trois-Rivières.

Ses démarches auprès de certains manufacturiers de gomme à mâcher pour les inciter à remplacer dans leur produit le sucre par un succédané, a eu des répercussions outre-frontière. Depuis, une compagnie américaine, "Amurol," a remis sur le marché canadien de la gomme à mâcher, des dragées et des fondants aromatisés de diverses saveurs et qui ne contiennent pas de sucre. Il semble donc que la demande créée au Canada les a incités à faire ce geste.

La Ligue continue sans relâche à promouvoir la fluoruration. Ses démarches auprès des maires et des conseillers municipaux, des surintendants d'aqueducs, des comités de citoyens, etc., ne sont pas demeurées sans résultat. Depuis l'an dernier, Trois-Rivières (pop. 50,000), Ste-Catherine d'Alexandrie, St-Constant, La-chute, Ayersville, St-Jérusalem d'Argenteuil, Ste-Rosalie de Bagot, St-Lambert, Greenfield Park, Ville LeMoine et Préville ont commencé à distribuer de l'eau fluorée à leurs ressortissants.

Nombre de municipalités qui ont commencé à fluorer leurs eaux au cours de l'année: 11.

Total depuis 1955: 30.

Population totale bénéficiant de l'eau fluorée dans la province: 288,712.

Québec se trouve maintenant au troisième rang parmi les provinces qui jouissent de cette mesure d'hygiène publique.

#### NOUVELLE INITIATIVE

Comme il n'existait, dans l'univers, aucun film en français sur la fluoruration, la Ligue a pris l'initiative. Elle a obtenu du U.S. Public Health Service l'autorisation de traduire en langue française le film intitulé: "A Drop in a Bucket."

Ce film en couleurs maintenant connu sous le titre de "H<sub>2</sub>O + NaF" a été montré en primeur aux étudiants de deuxième année à la faculté de chirurgie dentaire de l'Université de Montréal. Il a été vu par la profession lors du congrès de l'Association dentaire de la province de Québec et, par la suite, mis à la disposition des spécialistes en hygiène publique à l'emploi de la Ligue pour promouvoir la fluoruration dans leurs régions respectives. Ce film s'adresse au grand public et ne comporte pas de nomenclature technique. Il peut être apprécié et compris par tous. Si son budget le permet, la Ligue a l'intention de s'en procurer d'autres copies afin de promouvoir davantage au sein de la population cette mesure exceptionnelle d'hygiène dentaire publique.

C'est la seconde fois, depuis huit ans, qu'un film est réalisé en français grâce à l'initiative de la Ligue, mais c'est la première fois qu'il lui est permis d'en assumer toute la réalisation. En effet, il y a quelques années, les représentants de la Ligue avaient surveillé la traduction du film "Gardons nos dents," film produit par la compagnie Lever Brothers.

#### COLLABORATION AVEC LES MUNICIPALITÉS

1. A la demande des conseils de ville et des commissions scolaires de Candiac et de Ste-Catherine d'Alexandrie, la Ligue a organisé des enquêtes épidémiologiques au point de vue dentaire dans ces municipalités ainsi que dans les écoles de langue

anglaise de Delson et de St-Constant. Les examens des enfants sont terminés et la Ligue est en ce moment à en colliger et compiler les données.

2. A la demande du Dr V. Dubé, conseiller municipal de la Cité d'Outremont, la Ligue a préparé un mémoire à l'usage de la cité. Des extraits de ce mémoire furent incorporés dans la résolution adoptée, le 11 juillet 1962, par le conseil de la Cité d'Outremont. Cette résolution demandait à la Cité de Montréal de fluorer l'eau potable.

3. A la demande des conseils de ville de Trois-Rivières et de St-Lambert, la Ligue est à organiser des études épidémiologiques dans ces cités. Le travail préliminaire d'échantillonnage est terminé et les examens débiteront à la fin d'avril.

4. La Cité de Trois-Rivières ayant adopté la fluoration en septembre 1962, la Ligue s'est jointe à la Société dentaire de la Mauricie pour remettre officiellement aux autorités municipales un certificat de reconnaissance. La publicité à l'occasion de cette réception officielle fut considérable: allocution du président, articles dans les journaux, photographies, expédiés à 34 journaux. Ces articles ont fait grand état de cet événement et ont souligné l'inauguration de la fluoration dans la plus importante municipalité de la province en dehors de Québec et du Montréal métropolitain.

#### AIDE À LA PROFESSION

L'enseignement de l'hygiène dentaire ne peut porter fruit sans une intense collaboration entre les éducateurs en hygiène publique et la profession qui applique les principes enseignés à la population.

C'est pourquoi la Ligue a intensifié sa collaboration avec la profession en s'efforçant d'aider le Collège des chirurgiens dentistes de la province de Québec, les associations et les dentistes dans leurs efforts pour connaître la situation dentaire dans la province et pour amener plus de collaboration entre les confrères.

#### *Collaboration avec le Collège*

1. *Enquête sur les services dentaires dans les hôpitaux.*—Le Collège ayant confié à la Ligue l'enquête concernant les services dentaires dans les hôpitaux et autres institutions, la Ligue a fait le relevé des données dans 246 hôpitaux et institutions de la province et en a fait la compilation. Elle a préparé deux rapports au sujet de cette enquête, dont l'un préliminaire qui fut livré au registraire du Collège, et l'autre, final, qu'elle a présenté officiellement au Comité exécutif du Collège.

Ce rapport comprenait: la liste des institutions, leur genre, de qui dépendait leur administration, les groupes d'âges admis, la moyenne de patients reçus par jour par l'institution, la moyenne de patients qui y reçoivent des soins dentaires au cours d'une année, les genres de traitements dentaires qui y sont prodigués, le personnel dentaire et auxiliaire qui y est employé, le temps qu'ils consacrent aux soins dentaires dans l'institution, s'ils sont bénévoles ou non, leur mode de rémunération, à qui ils sont responsables pour leurs services dentaires, la classification de l'équipement dentaire mis à leur disposition selon que cet équipement est adéquat, bon, déficient ou inexistant, etc., etc.

2. *Comité d'hygiène dentaire publique du Collège.*—A la demande du Collège, la Ligue a fourni quatre des membres du Comité d'hygiène dentaire publique. Ces membres ont participé aux activités du comité et l'un de ceux-ci, à titre de secrétaire, a dressé le procès-verbal de la réunion. Ce procès-verbal fut livré au registraire du Collège.

3. *Sous-comité du comité de spécialisation.*—A la demande du Dr Howard Oliver, président du comité de spécialisation du Collège, les spécialistes en hygiène publique à l'emploi de la Ligue ont formé un sous-comité de spécialisation. Le Collège ayant l'intention de refondre ses règlements concernant les spécialités et la spécialisation, ce sous-comité fut

chargé d'étudier la raison d'être de la spécialisation en hygiène dentaire publique, sa définition, les exigences qui devraient être requises et d'en faire rapport au Comité.

Après une étude approfondie de ces questions, le sous-comité soumit son rapport. Ce rapport comprenait la définition de la spécialisation en hygiène publique, ses attributions: éducation, prévention, recherches, statistiques, administration, relations extérieures et, parfois consultations en législation. Il décrivait les exigences requises pour l'obtention d'un diplôme en hygiène dentaire publique; il faisait état de la reconnaissance de la spécialité en hygiène dentaire publique par l'Association dentaire américaine, en 1950, et décrivait les exigences requises aux Etats-Unis pour la reconnaissance comme spécialiste en hygiène dentaire publique. Le Comité étudie ce rapport et devra le soumettre au Comité exécutif du Collège en même temps que les recommandations du Comité.

### *Collaboration avec l'Association dentaire de la province de Québec*

1. *Comité des conférenciers.*— Le comité des conférenciers de l'Association dentaire de la province de Québec, composé uniquement de représentants de la Ligue, a fait enquête auprès des membres du Collège des chirurgiens dentistes de la province de Québec afin de connaître ceux qui seraient disposés à donner des conférences aux diverses sociétés dentaires de la province. Grâce au travail de ces représentants de la Ligue, l'Association a maintenant 47 conférenciers qu'elle peut offrir aux diverses sociétés dentaires et celles-ci ont le choix de 92 sujets de conférence.

2. *Comité d'interprétation.*— L'Association dentaire de la province de Québec a formé un comité d'interprétation dans le but de lui faire compiler les données d'une enquête instituée par l'Association, l'an dernier, et d'en interpréter les résultats.

Il a présenté son rapport à l'Association dentaire de la province de Québec et ce rapport fut aussi soumis au Comité exécutif du Collège.

La compilation des réponses au questionnaire démontre que la profession est des plus favorable à l'enseignement de l'hygiène dentaire par la Ligue d'hygiène dentaire à tous les niveaux: primaire, secondaire et adulte. Voici, à ce point de vue, un extrait du rapport fait après compilation des réponses données par les dentistes réclamant l'enseignement de la Ligue

au niveau primaire: 68.3 pour cent  
au niveau secondaire: 79.2 pour cent  
pour l'éducation des masses (radio, télévision, journaux, etc.): 70.8 pour cent.

Les chiffres mentionnés ci-haut ne concernent que la Ligue. Nous n'avons voulu faire aucune comparaison. Ceux qui sont intéressés à connaître le résultat obtenu par les autres n'ont qu'à consulter le rapport soumis à l'Association dentaire de la province de Québec.

3. A la demande du secrétaire de l'Association dentaire de la province de Québec, la Ligue a préparé une résolution favorable à la fluoruration. Cette résolution, soumise et acceptée par l'exécutif de l'A.D.P.Q., a été proposée par l'exécutif à la réunion annuelle de l'Association pour ratification; adoptée en assemblée plénière, elle a été publiée dans tous les journaux.

4. *Comité du bulletin.*—A la suite de l'enquête faite par l'Association, celle-ci se propose de publier un bulletin ou un journal. La Ligue a consenti à ce que le rédacteur en chef soit choisi parmi ses représentants et à ce que tous soient des collaborateurs actifs, pour la production d'articles ou pour la traduction d'articles anglais en français.

5. *Secrétariat.*— Sur les instances du comité exécutif de l'Association, la Ligue a permis à l'un de ses membres d'accepter le poste de secrétaire de l'Association et d'en assumer toutes les charges.



6. *Congrès de Chicoutimi.*—Plusieurs représentants de la Ligue ont collaboré au succès du congrès de Chicoutimi par la présentation de rapports de comités et autres activités.

#### *Collaboration avec les universités*

1. *Mémoire sur l'éducation en hygiène dentaire.*—A la demande du Dr Adélar Groulx, vice-doyen de l'Ecole d'Hygiène de l'Université de Montréal, un spécialiste en hygiène dentaire de la Ligue s'est chargé de préparer un mémoire sur l'éducation en hygiène dentaire en vue d'une réorganisation du curriculum de l'école d'hygiène.

2. *Comité de la Faculté de chirurgie dentaire.*—A la demande du doyen de la Faculté de chirurgie dentaire, Université de Montréal, un spécialiste en hygiène dentaire publique à l'emploi de la Ligue a accepté de faire partie du comité chargé d'étudier l'opportunité d'établir une école d'hygiénistes dentaires à l'Université.

3. *Renseignements fournis à l'étranger.* — A la demande du secrétaire de l'Ecole d'hygiène, un membre de la Ligue a préparé, à l'intention de l'Indiana School of Dentistry, un mémoire sur les cours pour l'obtention du diplôme en hygiène dentaire publique de l'Ecole d'hygiène de l'Université de Montréal.

4. *Collaboration à l'enseignement de la Faculté.* — Le Dr Clarence Bouillon étant gravement malade, un représentant de la Ligue a accepté l'invitation du doyen de la Faculté de chirurgie dentaire Université de Montréal de terminer la série de cours d'hygiène dentaire aux étudiants de deuxième année.

5. *Université McGill.* — A l'occasion de l'"Open House" de l'Université McGill, la Ligue a fourni aux étudiants en chirurgie dentaire, un projecteur et un film sur la fluoruration qui fut montré sept fois à des auditoires variant de 50 à 75

personnes, une enregistreuse sonore et des rubans magnétiques contenant des interviews d'un représentant de la Ligue et 1,000 dépliant sur l'hygiène dentaire et sur la fluoruration. La Ligue a profité de l'occasion pour féliciter ces étudiants pour avoir fait goûter de l'eau fluorée aux visiteurs et pour l'excellence de leurs exhibits.

6. *L'Association générale des étudiants de l'Université de Montréal.* — La Ligue a aussi participé aux manifestations des étudiants de la Faculté de chirurgie dentaire de l'Université de Montréal. Son représentant y a traité de la fluoruration des eaux de consommation. Ce représentant a ensuite été invité au conseil général de l'A.G.E.U.M. et a fait adopter à l'unanimité, par les conseils de toutes les facultés, une résolution demandant la fluoruration des eaux comme mesure préventive de la carie dentaire. Cette résolution du corps universitaire fut reproduite dans les journaux et copie envoyée à son Honneur le Maire Drapeau. Quelques jours plus tard, M. Saulnier, président du Comité Exécutif de la Cité de Montréal, déclarait, dans une émission à la télévision (Canal 2) que si la population demandait la fluoruration, il était prêt à acquiescer à cette demande.

#### *Collaboration avec l'Association dentaire canadienne*

Par l'intermédiaire d'un de ses spécialistes en hygiène dentaire publique, qui est membre du Conseil d'hygiène publique de l'Association dentaire canadienne, la Ligue a participé activement au travail de ce Conseil.

1. Elle a ainsi participé à la révision de plusieurs dépliant de l'A.D.C. tels que "How to Brush your Teeth," "Care after Surgery," "Dental Health Guide for Teachers," "Facts" maintenant publié sous le titre de "Facts Favour Fluoridation".

2. La Ligue a fait la traduction française de ce dernier dépliant sous le titre de "La fluoruration, les faits parlent en sa

faveur". En guise de reconnaissance, l'Association a fait parvenir à la Ligue 3,000 copies de cet imprimé.

3. Conjointement avec le Dr Brian O'Meara, de l'Ile-du-Prince-Edouard, un représentant de la Ligue a entrepris la préparation d'un nouveau feuillet que publiera l'A.D.C., intitulé "Look for the Four Leaf Clover of Dental Health."

4. L'ensemble de cette collaboration a nécessité un échange de correspondance considérable et l'assistance à la réunion annuelle du Conseil d'hygiène publique de l'A.D.C., tenue à Toronto.

5. La Ligue a de plus collaboré avec l'A.D.C. en lui fournissant un de ses représentants à titre de rédacteur-adjoint de la section française du *Journal de l'Association dentaire canadienne*.

#### *Collaboration avec les sociétés dentaires*

La Ligue a, dans la mesure du possible, participé aux activités de toutes les sociétés dentaires, à quelques exceptions près. Entre autres:

1. *Montreal Dental Club*. — A l'occasion du Montreal Dental Club Fall Clinic, la Ligue a organisé une exposition du matériel qu'elle offre gratuitement aux dentistes pour l'éducation de leurs patients. Un total de 30,506 dépliants furent commandés par quelques 200 personnes qui ont visité ce kiosque. En plus des dentistes et assistants dentaires, des médecins, des infirmières, des religieuses et des institutrices ont aussi visité cette exposition.

A la demande des officiers du Montreal Dental Club, la Ligue a donné des interviews à cinq journalistes ainsi qu'une à la télévision et deux à la radio à l'occasion du Fall Clinic.

2. *Société dentaire de St-Hyacinthe*. — La Ligue d'hygiène dentaire a collaboré avec cette Société en lui fournissant un de ses spécialistes en hygiène dentaire publique comme secrétaire. Celui-ci a organisé sept réunions locales et trois réunions conjointes avec des dentistes pratiquant dans

des villes avoisinantes. Délégué par la Société auprès des autorités de l'Hôpital St-Charles, il est membre du Comité des règlements, du Comité d'organisation des services dentaires hospitaliers et du Comité d'urgence en cas de catastrophe nationale de cet hôpital.

3. *Société dentaire du N.O.Q.* — La Ligue participe aux activités de cette société par l'intermédiaire de son représentant dans la région du Nord-Ouest du Québec qui est secrétaire de cette Société. Celui-ci a préparé et convoqué trois réunions générales de la Société dentaire du N.O.Q. Au cours d'une de ces réunions, il a fait adopter une résolution en faveur de la fluoration. Ses demandes auprès du directeur médical du Sanatorium de Mamamiv ont résulté en l'obtention qu'un examen dentaire soit fait à chaque patient qui y fait son entrée et que d'autres traitements que l'extraction et la prothèse soient faits dans ce sanatorium pour le bien des malades. Il fait aussi partie du Comité consultatif de l'hôpital.

4. *Autres sociétés dentaires*. — Il n'est pas possible dans un rapport annuel de donner en détails toutes les activités des sociétés dentaires auxquelles la Ligue a participé. Mentionnons entre autres la Société dentaire de la Rive Sud, à St-Jean-Port-Joli, la Société dentaire des Laurentides qui en particulier a bénéficié d'un projecteur et de films. La Société dentaire de la Mauricie a aussi bénéficié des services d'un des représentants de la Ligue à titre d'organisateur de la publicité, de délégué de cette Société auprès de l'Association dentaire de la province de Québec et de correspondant au "Monde Dentaire".

#### *Collaboration avec autres groupements*

1. *Unités sanitaires*. — A la demande du Dr Eric Mongeon, dentiste attaché à l'Unité sanitaire du Comté d'Argenteuil, la Ligue a préparé un mémoire sur le relevé fait par l'un de ses représentants à Lachute, il y a quelques années. Ce

relevé avait eu le double but de renseigner la population sur la fluoration et de connaître l'opinion publique à ce sujet. Quelques mois plus tard, une lettre au sous-ministre de la santé annonçait que Lachute, Ayersville et St-Jérusalem avaient commencé à fluorer leurs eaux. Cette même lettre du Dr L. Turcotte, médecin hygiéniste de l'Unité sanitaire d'Argenteuil, annonçait également qu'une partie du crédit était attribuable au représentant de la Ligue.

2. *Services de santé.* — Comme l'alimentation a des répercussions sur la santé dentaire, la Ligue a profité de toutes les occasions offertes pour promouvoir une saine alimentation. En plus de profiter de chacun de ses services de cours pour toucher à ce sujet, elle a collaboré avec les médecins hygiénistes et les nutritionnistes du Service de santé de Montréal dans les 64 écoles où furent tenues des séances conjointes d'Hygiène alimentaire et d'Hygiène dentaire de deux heures. A l'appui des deux conférences données à chacune de ces séances, deux films sonores en couleurs illustrent l'enseignement donné.

A la demande du Dr Clarence Bouillon, directeur de la Division dentaire du Service de santé de la Cité de Montréal, un représentant de la Ligue lui a préparé un mémoire sur "L'Histoire de la Ligue d'hygiène dentaire de la province de Québec."

3. *Commissions scolaires.* — Des spécialistes de la Ligue ont collaboré avec des Commissions scolaires: (a) à titre de consultants concernant la promotion de la distribution du lait aux écoliers, la restriction des sucreries, etc.; (b) à titre de spécialistes en hygiène dentaire, ils ont contribué au dépistage des maladies dentaires et à la présentation de rapports à ce sujet.

Parmi les commissions scolaires qui en ont bénéficié, mentionnons entre autres: Trois-Rivières, La Tuque, Montréal, Candiac, Ste - Catherine d'Alexandrie, Grand'Mère, Drummondville, Sherbrooke, Québec.

En plus des commissions scolaires, le Centre de service social des Trois-Rivières a aussi bénéficié des services d'un des spécialistes de la Ligue à titre de consultant en hygiène dentaire publique.

4. *Association de l'Industrie laitière.* — La Ligue a collaboré avec l'Association des laitiers industriels par la publication mensuelle d'articles dans le journal officiel de l'Industrie laitière, par des articles dans d'autres journaux, des causeries à la radio, etc., pour promouvoir l'usage du lait qui est reconnu comme étant l'aliment le plus complet qui existe en ce moment.

5. *La Ligue canadienne de santé.* — La participation de la Ligue aux activités de la Ligue canadienne de santé a permis de distribuer aux unités scolaires, aux services de santé municipaux et industriels, aux commissions scolaires catholiques et protestantes de la région métropolitaine, au clergé dans toute la province et aux autres qui en ont fait la demande, des dépliants sur l'hygiène de la bouche ainsi que sur la fluoration. Plusieurs des derniers mentionnés sont publiés conjointement par les deux Ligues, la Ligue de santé fournit le texte anglais et la Ligue d'hygiène dentaire a assumé la responsabilité de leur traduction en français. Un total de 47,459 de ces imprimés furent ainsi distribués au cours de la Semaine nationale de santé, dont 29,626 en français et 17,833 en anglais.

En collaboration avec la Ligue canadienne de santé, la Ligue a aussi entrepris un relevé de toutes les municipalités qui fluorent leurs eaux au Canada. Il y en a maintenant 152 dont 30 dans la Province de Québec. Notre province se classe au troisième rang parmi les provinces canadiennes qui bénéficient de la fluoration; seuls le Manitoba et l'Ontario ont plus de municipalités qui fluorent leurs eaux que la province de Québec.

6. *Association canadienne de maires et municipalités.* — A la demande du secré-

taire de l'Association canadienne des maires et municipalités, la Ligue a préparé un "Mémoire sur la fluoration" à l'intention du président de cette Association. Ce mémoire fut utilisé aux Trois-Rivières par Son Honneur le Maire et un représentant de la Ligue; il a contribué à l'adoption de la fluoration par cette municipalité. La Ligue s'en est aussi servi dans les régions du Saguenay et du Lac St-Jean et l'on s'attend à ce que, malgré les objections d'un petit groupe, certaines municipalités de ces régions adoptent prochainement la fluoration.

#### *Demandes de représentants*

L'Association dentaire de la province de Québec a fait parvenir à la Ligue une résolution à l'appui de la demande des dentistes de la région du Saguenay et du Lac St-Jean pour qu'un nouveau spécialiste en hygiène dentaire publique soit employé par la Ligue dans leur région, en remplacement du Dr Léo Ratelle qui a dû donner sa démission pour raisons de santé.

La Société dentaire de la Rive Sud, par résolution adoptée par ses membres en bonne et due forme, demande aussi à la Ligue qu'un de ses représentants soit nommé pour cette région.

En conséquence, la Ligue a entrepris des démarches pour obtenir un octroi lui permettant d'engager deux dentistes qui se spécialiseraient en hygiène publique et qu'elle affecterait à ces régions. La Ligue espère que les autorités gouvernementales accueilleront cette demande dans l'intérêt de la santé publique et pour le bien de la profession.

#### CONCLUSION

La Ligue espère que ses démarches pour lui permettre d'augmenter son personnel auront l'appui de la profession et des autorités gouvernementales, ce qui lui permettra de continuer sans cesse d'augmenter son rendement et de contribuer ainsi à l'amélioration de la santé publique dans toute cette province.

426 est boul. St-Joseph

## résumés

### DÉSINFECTION DES INSTRUMENTS DENTAIRES

*H. A. Hunter et E. M. Madlener. Internat. D. J. 11:312, 1961.*

Les techniques connues pour stériliser les instruments sont les suivantes: ébullition, autoclave à vapeur, chaleur sèche modérée, flamme, flamme de gaz, solutions chimiques et irradiation.

La corrosion constitue le plus grand

problème de la stérilisation des instruments en acier.

A part ce problème, l'autoclave, qui utilise la chaleur humide sous la forme de vapeur sous pression, est la méthode la plus sûre pour la destruction de toute forme de vie microbienne. Trente minutes à 120°C. suffisent en laissant le temps nécessaire pour préparer, envelopper et placer la matériel à stériliser dans l'autoclave.



La seconde meilleure méthode pour stériliser les instruments en métal consiste dans l'utilisation de l'air chaud à sec. La proportion temps-température de six heures à 121°C. ressemble à celle qu'on emploierait pour un autoclave à vapeur qui aurait sa vapeur seulement dans le capuchon et qui fonctionnerait comme un stérilisateur à air chaud.

Les solutions désinfectantes sont soit à base de composés du phénol (agissant contre les formes végétatives de bactéries et de champignons), soit des composés du mercure (ayant des propriétés antiseptiques assez faibles), soit des composés du chlore (corrodant le métal, à l'exception de l'hexachlorophane), soit l'alcool (coagulant les protéines), soit les composés quaternaires d'ammonium (utilisés à profusion pour nettoyer les ustensiles de cuisine), soit les préparations de formaldéhyde (coagulant les protéines, ayant des vapeurs irritantes, détruisant les bactéries et les spores).

La stérilisation des instruments d'endodontie s'obtient avec des stérilisateurs à air chaud contrôlé avec un thermostat, soudés au molton et ayant de petites boules de verre, du sel, du sable et des billes d'acier.

Ces stérilisateurs s'utilisent seulement pour les petits objets qui peuvent être submergés dans le milieu chaud. Il est important que les ingrédients du milieu chaud n'adhèrent pas aux instruments qui sont stérilisés, car il y aurait danger d'introduire ces ingrédients dans le canal radiculaire. Cet équipement est simple, petit, peu coûteux et fonctionne rapidement.

Les contre-angles et les pièces à main peuvent se stériliser à l'air chaud ou en les faisant bouillir dans l'huile. Les huiles d'hydrocarbure ont une tendance à se décomposer à 150°C., à répandre une odeur désagréable et à constituer un risque d'incendie. Par ailleurs, les huiles de silicone stables, inodores et non-in-

flammables, sont de mauvais lubrifiants. Il n'est pas nécessaire que les contre-angles et les pièces à main soient absolument stérilisés, car ce sont des instruments qui ne pénètrent pas sous la muqueuse. Il suffit d'immerger les contre-angles contaminés par la salive durant 20 minutes dans une huile minérale lourde à 107°C. pour détruire les formes végétatives de bactéries qui adhèrent à la surface ou à l'intérieur.

Il faut laisser les contre-angles huileux ou graisseux durant beaucoup plus de temps dans les stérilisateurs à air chaud, parce qu'il n'y a pas d'humidité.

Les pièces à main des turbines ont des douilles en plastique et, par ce fait, elles ne peuvent pas être chauffées à 100°C. De même, on ne peut pas les plonger dans des liquides, car il est très difficile d'éliminer complètement ces liquides après la stérilisation. On doit se contenter de les garder propres, c'est-à-dire de les nettoyer à l'extérieur avec un désinfectant chimique.

Les seringues hypodermiques, parce qu'elles pénètrent à l'intérieur des tissus, risquent davantage de causer des infections; elles sont susceptibles de causer des infections à bactéries et de transmettre le virus d'hépatite sérique ou infectieux. Il faut nettoyer chaque aiguille et son embout avec un stylet en métal; ce stylet doit être enlevé avant de stériliser l'aiguille, car il pourrait, par électrolyse, ronger le métal. Seul l'autoclave assure la stérilité. La stérilisation à l'huile n'est pas à conseiller à cause de la possibilité d'une embolie d'huile.

La valeur de l'eau bouillante sur le virus de l'hépatite sérique est inconnue; cependant elle agit très bien contre les formes végétatives de bactéries. L'addition d'alcalins détruit les spores, mais les alcalins qui adhèrent aux parois de la seringue peuvent réagir sur la solution anesthésique.

## **Comprimés et solutions de fluor pour prévenir la carie dentaire**

### *Conseil des recherches*

Le conseil des recherches de l'Association dentaire canadienne a préparé en 1963 cette déclaration au sujet des comprimés et solutions de fluor pour la prévention de la carie dentaire:

1. La rectification de la teneur du fluor de l'eau à une partie par million est une mesure d'hygiène publique sûre et efficace pour prévenir la carie dentaire. Jusqu'à maintenant il n'y a pas de méthode qui puisse se comparer à celle-ci au point de vue sûreté, efficacité et coût.

2. Le conseil des recherches recommande des comprimés de fluor, quand il n'y a pas de système d'aqueduc et quand l'eau contient moins de 0.7 partie de fluor par million.

3. On peut préparer à la maison de l'eau fluorée à 1 ppm en utilisant des comprimés de fluor. L'emploi de cette eau pour la consommation, pour la préparation des aliments des bébés et pour la cuisson donne des résultats semblables à ceux

obtenus par la fluoration de l'eau de l'aqueduc.

4. Une autre méthode consiste à donner des comprimés de fluor ou des solutions concentrées de fluor dans l'eau selon une posologie basée sur l'âge. On peut obtenir des renseignements à ce sujet en s'adressant au secrétaire de l'Association dentaire canadienne.

5. On recommande que ces comprimés ou ces solutions concentrées de fluor ne soient livrés que sur une ordonnance de dentiste ou de médecin qualifié, seulement après avoir vérifié la teneur en fluor de l'eau domestique et seulement après s'être assuré que les parents exercent une surveillance sur leur emploi durant plusieurs années.

6. Les produits contenant en même temps du fluor et des vitamines doivent être déconseillés, car l'administration d'un seul ingrédient serait d'un contrôle plus difficile. Aussi plus il y a d'ingrédients, plus considérables sont les dangers provoqués par l'abus.

*Les Plans d'assurance-pension de l'A.D.C.* • L'Association dentaire canadienne offre à ses membres, en plus d'autres avantages, un plan d'assurance-pension, un plan d'épargne-retraite, un plan d'assurance-hospitalisation, un plan d'assurance-groupe pour la maladie et les accidents et un plan de protection contre les frais fixes du cabinet. On écrit au Plan d'assurance-pension de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

## Cours post-gradués exempts d'impôt

Un devoir auquel nul n'échappe: la préparation et la présentation annuelle de l'état de revenus et dépenses, naturellement accompagné d'un chèque pour satisfaire à la loi des impôts.

Une question qu'on se pose souvent à ce moment: qu'est-ce qu'on pourrait encore déduire du revenu imposable? Question souvent intéressée car, au fond, ce qu'on cherche, c'est à payer le moins d'impôt possible.

Il y a cependant, parmi beaucoup d'autres, une réponse où reflète autre chose que l'intérêt personnel, mais plutôt une question de principe, c'est la déduction du revenu imposable des frais occasionnés par un cours de perfectionnement post-scolaire.

Le problème peut s'envisager sous deux aspects.

D'abord il y aura légère baisse au niveau du chèque lui-même. Si les frais d'un cours sont déduits, le revenu imposable changera peut-être de catégorie et le pourcentage de l'impôt payable se verra diminué d'autant. Cependant, si on examine la situation avec les yeux du gouvernement, celui-ci verra de prime abord, une baisse, légère si on veut, mais réelle tout de même, dans son revenu de taxation. Mais si un dentiste est consciencieux, comme il se doit, et qu'il se tient au courant des nouvelles techniques, qu'il se perfectionne, qu'il va même près de la spécialisation en suivant assez régulièrement les cours qui se donnent dans diverses écoles dentaires reconnues, il reviendra chez lui, chaque fois, avec un

baggage de connaissances et une habileté qui feront dire à sa clientèle, à ses concitoyens, à ses confrères voisins: voici un homme à la page. Et en toute justice, ses traitements atteignant un niveau supérieur, il aura droit à des honoraires proportionnés à sa réputation et à ses services. De sorte que, normalement, à la fin de l'année, le revenu augmentera, l'impôt aussi et notre homme remboursera le gouvernement de la partie d'impôt non payée pour l'année d'imposition où il a suivi son cours.

Le tout se considère donc comme un prêt du gouvernement pour encourager les cours post-scolaires: prêt, pour un an, qui rapporte indéfiniment. Et s'il est remboursable à ce point, pourquoi ne pas y ajouter un montant fixe pour compenser au moins partiellement, l'arrêt de revenus durant l'absence du bureau.

Autre point de vue qui regarde beaucoup plus la question de principe que la question de finance: c'est que la profession dentaire a charge d'une partie de la santé publique. Il est de toute évidence que la nécessité de soins adéquats s'impose. Si les membres de la profession sont encouragés et aidés à se perfectionner, ils le feront sans aucun doute beaucoup plus qu'actuellement et, aux yeux du public, le prestige des dentistes augmentera sensiblement, et, chose encore plus importante, la santé dentaire des Canadiens bénéficiera d'une protection plus efficace. Et il n'y a pas lieu d'hésiter à croire que des hommes de la trempe de ceux à qui on a confié la santé des Canadiens veulent

autre chose que sa conservation et son entretien, et cela de façon non équivoque.

Si donc l'exemption d'impôt pour les frais encourus par des cours de perfection-

nement post-gradués s'avère nullement préjudiciable au trésor fédéral, et si bien-faisante à la santé dentaire publique, pourquoi sa réalisation ne deviendrait-elle pas chose concrète?

## les actualités dentaires

### L'Association

#### DÉCÈS D'UN MEMBRE HONORAIRE

Le docteur L. J. D. Fasken, 83 ans, membre honoraire de l'Association dentaire canadienne, est décédé le 11 août, à Dunnville, Ontario. Le docteur Fasken, après ses études dentaires à Toronto, s'établit en 1905, à Regina, et devint le premier secrétaire-trésorier du Collège des chirurgiens-dentistes de Saskatchewan. Il fut plus tard président de la Société dentaire de l'ouest du Canada. Depuis quelques années, le docteur Fasken vivait à Dunnville avec sa fille. Il est enterré à Elora, Ontario.

#### FONDS CANADIEN D'ENSEIGNEMENT DENTAIRE

Le Fonds canadien d'enseignement dentaire a reçu, au cours des dernières semaines, des subventions de dentistes et d'organismes dentaires de tout le Canada. L'Association dentaire de la Nouvelle-Ecosse, au cours de son assemblée annuelle, tenue récemment, a voté un montant de \$500 au Fonds. Les anciens présidents de l'Association dentaire canadienne, comme ils l'avaient suggéré à leur réunion tenue au cours du dernier congrès, ont contribué individuellement au Fonds. Des dons ont aussi été reçus comme mémorial pour des membres de l'Association. On a distribué aux membres des dépliants expliquant les objectifs du Fonds canadien

pour l'enseignement dentaire. On peut se procurer de ces dépliants en s'adressant au secrétaire du Fonds canadien pour l'enseignement dentaire, à 234 rue St-Georges, Toronto.

#### LA CIE PROCTER & GAMBLE DONNE UN OCTROI DE \$3,000

La Cie Procter & Gamble du Canada Ltée a fait un octroi de \$3,000 à l'Association dentaire canadienne pour la recherche dentaire. La compagnie, au cours des deux dernières années, avait contribué \$3,000 pour aider des réunions des chercheurs dentaires du Canada. La compagnie, quoiqu'il n'y ait pas de réunion cette année, a versé son octroi pour la recherche dentaire.

### Le Canada

#### DÉCÈS DE LA FONDATRICE D'ASSOCIATIONS D'ASSISTANTES DENTAIRES

Mme Marion Edwards, 78 ans, de Brooklin, Ontario, est décédée le 9 juin. Elle avait fondé trois associations d'infirmières dentaires, une à Toronto, une dans l'Ontario et l'Association canadienne des infirmières et des assistantes dentaires. Elle était membre honoraire d'organismes similaires aux États-Unis et en Angleterre.



## PLAN MÉDICAL POUR L'ALBERTA

Le plan des traitements médicaux, voté à la législature en mars, a pris effet le 1er juillet et il est en activité depuis le 1er octobre.

Cette loi permet au ministre de la santé de:

"conclure des arrangements avec les Medical Services (Alberta) Incorporated ou toute autre corporation d'assurance dont le programme fondamental de services médicaux pré-payés ou d'assurance pour des services médicaux a été sanctionné par le gouvernement et le Collège des médecins et chirurgiens de la province d'Alberta pour mettre à la disposition des résidents éligibles, qui les désirent et qui ont besoin d'aide, des services médicaux pré-payés ou une assurance pour des services médicaux; en vue d'acheter les contrats accordés par cette corporation et d'accorder une subvention fixée en dollars pour ces résidents qui ont besoin d'assistance, à condition que le coût de la prime de pré-paiements ou de l'assurance pour ces résidents soit réduite du montant de la subvention."

et de conclure des arrangements

"avec toute corporation d'assurance, pour prodiguer des services de santé plus étendus, en plus des services médicaux, et d'accorder des subventions dont les montants seront fixés pour aider les résidents éligibles qui désirent cette protection et qui ont besoin d'aide financière pour se les procurer."

L'aide du gouvernement prendra la forme de primes accordées pour des systèmes d'assurance privée selon une échelle basée sur les revenus et le nombre de dépendants.

Le premier ministre Manning a déclaré que le gouvernement, pour abaisser le coût, compte sur une concurrence entre les compagnies commerciales et les Medical Services Incorporated qui sont sans but lucratif.

## BILL MÉDICAL PRÉSENTÉ À LA LÉGISLATURE D'ONTARIO

Le premier ministre Robarts a présenté à la Chambre, le 23 avril, un projet d'assurance-santé médicale. Le bill n'a pas été voté définitivement au cours de la dernière session; il établit les structures qui permettront à un comité représentant les intéressés d'élaborer un plan. Le comité a tenu des séances publiques au cours de l'été.

Le bill, dans sa forme actuelle, exige que tout plan actuel, soit patronisé par des médecins ou dirigé par des assureurs privés, se conforme à un plan minimum standard d'assurance médicale que déterminera le comité et qui sera vraisemblablement ratifié par le gouvernement. Ces plans auront deux formules: pour des traitements prodigués à l'hôpital et pour des traitements donnés en dehors de l'hôpital. Le gouvernement établira le montant maximum des primes pour cette protection.

Le plan accordera à tout citoyen de la province, sans considération de son âge, son état physique et ses revenus, une protection complète, facultative et non-annulable pour des traitements médicaux. Le gouvernement assumera la responsabilité d'accorder cette protection à ceux qui ne pourraient pas se la payer.

La protection standard ne comprendra pas les examens annuels; les épreuves de laboratoire pour les diagnostics dans les hôpitaux; les examens pour les assurances, l'admission dans les écoles et pour l'embauchage; le soin des nouveaux-nés par le médecin qui a fait l'accouchement; et les services prodigués par d'autres systèmes, comme des plans de compagnie et d'indemnité pour les travailleurs.

Le loi prévoit l'établissement d'une association qui s'intitulera Medical Carriers Inc., à laquelle devront appartenir toutes les compagnies qui vendent de l'assurance médicale dans la province.

## Chronique internationale

### ELECTIONS DES OFFICIERS DE LA FÉDÉRATION DENTAIRE INTERNATIONALE

Le docteur Erich Müller, d'Allemagne, a été intronisé comme président de la Fédération dentaire internationale, à la 51<sup>e</sup> réunion annuelle qui a eu lieu à Stockholm, du 29 juin au 6 juillet derniers. Le docteur Knut Gard, de Norvège, a été nommé président-élu. Les officiers qui ont été réélus sont les docteurs G. H. Leatherman, d'Angleterre, comme secrétaire général et Jack Stork, comme trésorier, tous les deux pour un terme de trois ans. Le docteur Harold Hiltenbrand, secrétaire de l'Association dentaire américaine, a été élu vice-président. Au-delà de 1,300 dentistes assistaient à ce congrès, parmi lesquels on remarquait les docteurs James P. Whyte, de Swift Current, Saskatchewan, ancien président de l'Association dentaire canadienne, et Don W. Gullett, secrétaire. La prochaine réunion aura lieu à San Francisco, du 9 au 14 novembre 1964.

### LA SUÈDE CONTINUE D'ÉTUDIER LA FLUORATION

Des observations sur la fluoration, qui devaient durer dix ans et qui avaient été interrompues par une injonction de la Cour

suprême de Suède, ont été prolongées pour cinq ans, grâce à un amendement spécial à la loi de santé de Suède. A la suite de cet amendement, les villes qui disposent d'un système d'aqueduc pourront fluorer l'eau potable avec le consentement du Bureau royal de médecine de Stockholm.

### UNE CLINIQUE DENTAIRE FERME SES PORTES À CAUSE DE LA FLUORATION

La ville de Hartford, Connecticut, a fermé une clinique dentaire pour les enfants d'âge pré-scolaire, à cause de la diminution marquée du taux de la carie dentaire chez ces enfants. Le directeur des services dentaires de Hartford a déclaré que les premiers réels effets de la fluoration, utilisée depuis 1960, commencent à se faire voir. La liste d'attente pour des traitements à la clinique a commencé à diminuer, l'an dernier, et elle est maintenant épuisée. Deux autres cliniques, une de prévention et une autre de traitements, suffiront à prendre soin des petits enfants. Une hygiéniste dentaire travaillant à plein-temps et un dentiste travaillant à temps partiel ont été remerciés. La clinique qu'on vient de fermer coûtait de \$5,000 à \$8,000, par année.

### UN SYNDICAT DE NEW YORK SE PRONONCE EN FAVEUR DE LA FLUORATION

Le syndicat AFL-CIO, de New York, s'est rangé du côté du maire Robert F. Wagner qui tente d'obtenir l'autorisation de l'aqueduc de cette ville d'abaisser de plus de la moitié l'incidence de la carie dentaire chez les enfants.

Selon un rapport de la presse, le président des services communautaires du conseil municipal a déclaré que seules, parmi les douze plus grandes villes des Etats-Unis, New York et Los Angeles n'ont pas encore adopté la fluoration.

Le maire Wagner, plus tôt dans l'année, avait dit à une conférence de presse, qu'à la suite de critiques formulées par l'Association dentaire américaine, la ville de New York adopterait probablement cette mesure à la fin de l'année. Les adversaires de la fluoration ont, paraît-il, amassé une somme de \$100,000 pour mener la lutte contre cette mesure.

### DES PLANS DENTAIRES PROTÈGENT UN MILLION D'AMÉRICAINS

Plus d'un million d'habitants des Etats-Unis, selon un officier du Service de santé publique des Etats-Unis, sont protégés par une forme ou l'autre de plan dentaire pré-payé. En 1960, environ 550,000 personnes adhéraient à des plans dentaires pré-payés; aujourd'hui, ils sont 1,145,000. Au cours de la même période, le nombre des plans est passé de 125 à 296. Il y a des plans dans 30 Etats et à Porto Rico.

### Hygiène publique

#### L'ASSOCIATION CANADIENNE D'HYGIÈNE PUBLIQUE PRÔNE LA FLUORATION

L'Association canadienne d'hygiène publique, à sa récente réunion tenue à Winnipeg, a conseillé à la population d'approuver la fluoration. L'A.C.H.P., par résolution, prie et conseille les municipalités, comme partie essentielle d'un programme d'hygiène dentaire, de porter la teneur de l'eau de leur aqueduc au taux idéal, c.-à-d. à une partie de fluor par million de parties d'eau, si elle ne contient pas suffisamment de fluor.

#### FLUORATION REJETÉE EN ALBERTA À LA SUITE D'UN VOTE

Une ville d'Alberta, Lac La Biche, quoique la majorité des habitants ait voté en faveur de cette mesure, ne peut pas fluorer l'eau de son aqueduc. Une loi de la province exige qu'à l'occasion d'un référendum sur cette question, la fluoration ne soit pas mise en force à moins que la majorité des votes en faveur ait une majorité des deux tiers. Le vote des 1,400 habitants de cette ville s'est réparti en 220 en faveur et 154 contre.

#### RÉUNION D'ÉTUDE SUR L'HYGIÈNE DENTAIRE PUBLIQUE

On annonce qu'une réunion d'étude sur l'enseignement de l'hygiène dentaire publique aura lieu à New Brunswick, N.J., à l'Uni-

versité Rutgers et au Centre de recherches de Colgate-Palmolive, du 4 au 6 décembre. Un octroi de la Cie Colgate-Palmolive permet à un représentant de chacune des facultés dentaires des Etats-Unis et du Canada d'assister à cette réunion. D'autres représentants peuvent assister à ces assises, mais à leurs frais.

Le but de cette réunion est d'établir les objectifs de l'enseignement sous-gradué en hygiène dentaire publique. On espère qu'à l'aide de ces objectifs, on pourra élaborer un meilleur cours qui permettra aux étudiants de mieux réaliser leurs responsabilités dans la société comme membres d'une profession de santé.

Le docteur Jean-Paul Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal et président du conseil d'enseignement de l'A.D.C., a été nommé chef de groupe du contingent canadien. Les autres délégués canadiens sont les docteurs C. W. B. McPhail (Alberta), G. H. G. Weinlander (McGill), Gordon Dawson (Dalhousie), Thomas L. Marsh (Manitoba), G. T. Mitton (Toronto) et Aberdeen McCabe (Montréal).

## Le Corps dentaire royal canadien

### ÉLÈVES-OFFICIERS EN TOURNÉE OUTRE-MER

Dix-huit élèves-officiers ont quitté le Canada par avion militaire, le 1<sup>er</sup> juillet, pour effectuer une tournée de deux semaines dans les unités de la 1<sup>re</sup> Division aérienne, dont le quartier général se trouve à Metz (France). Ce voyage faisait partie de leur instruction d'été de deuxième année et avait pour but de les familiariser avec le rôle et les coutumes de l'Aviation, dans laquelle ils sont susceptibles d'être appelés à servir une fois leurs études terminées. Jusqu'à présent, ce genre d'instruction se donnait toujours à la Base aérienne de l'Aviation royale Canadienne, à Centralia.

Le major D. H. Protheroe, l'un des instructeurs de l'Ecole du Corps dentaire, a dirigé le groupe pendant cette tournée qui a eu lieu après un séjour de trois semaines à Halifax avec la Marine royale du Canada. De retour au Canada, le 12 juillet, les élèves-officiers se sont rendus à Camp Borden pour y suivre le reste de leur instruction d'été à l'Ecole du Corps dentaire.

## LE TROPHÉE MOORE DÉCERNÉ À UNE UNITÉ D'EDMONTON

Pour la deuxième année consécutive, la 60<sup>e</sup> Unité dentaire (Milice) d'Edmonton a gagné le trophée Moore grâce aux excellents résultats qu'elle a obtenus lors du concours de compétence générale. Ce trophée est décerné à l'unité qui, dans l'ensemble, fait preuve de la plus grande valeur professionnelle. La 60<sup>e</sup> Unité dentaire est commandée par le lt-col. S. G. Geldart.

Le trophée Trelford, remis à l'unité qui arrive deuxième, a été attribué à la 57<sup>e</sup> Unité dentaire de Winnipeg, commandée par le lt-col. H. J. Snidal, alors que le trophée Memorial de l'Association dentaire de la Saskatchewan, présenté à l'unité qui a fait le plus de progrès au cours de l'année d'instruction, a été décerné à la 54<sup>e</sup> Unité dentaire d'Ottawa, commandée par le lt-col. H. J. Chartrand.

## MISES À LA RETRAITE

Le colonel G. B. Shillington, C.D., D.D.S., B.Sc., Q.H.D.S., F.I.C.D., sous-directeur général des Services dentaires des forces armées du Canada, a pris retraite au mois de juin dernier.

Le colonel Shillington est né à Blenheim (Ont.). Après avoir reçu son diplôme de dentiste à l'Université de Toronto en 1934, il passe l'année suivante à l'Hôpital dentaire de la Clinique Forsyth, à Boston (Mass.). Il revient ensuite à Toronto, où il obtient son baccalauréat ès sciences en 1937; c'est aussi dans cette ville qu'il commence à exercer sa profession.

Accepté au grade d'officier dans le Corps dentaire en octobre 1939, il se rend outre-mer en 1941 et sert au Royaume-Uni et au Proche-Orient. Il revient au Canada en 1946 avec le grade de lieutenant-colonel et, après une affectation à la 36<sup>e</sup> Compagnie dentaire, à Trenton, il se voit confier le poste de sous-directeur des Services dentaires au quartier général de l'Armée.

Après avoir servi pendant un an en qualité de commandant de l'Ecole du Corps dentaire, le colonel Shillington assume le commandement de la 11<sup>e</sup> Compagnie dentaire, en août 1954, à Edmonton, et en octobre 1955, il est promu à son grade actuel. En 1957, il retourne au quartier général de l'Armée à titre de conseiller supérieur et il est nommé dentiste honoraire de la Reine, en juin 1958. Au moment de sa retraite, le colonel Shillington est sous-directeur général des Services dentaires, poste dont il a été titulaire au cours des cinq dernières années.



Marié et père de deux enfants, le colonel Shillington retourne à l'exercice de sa profession, à Manotick (Ont.).

Le major J. G. Andrews a également pris sa retraite en juin dernier, après vingt-deux années de services continus dans le Corps dentaire. Né à Toronto, il y fait ses études et reçoit son diplôme de dentiste à l'université de cette ville, en 1941.

Le major Andrews servit outre-mer au cours de la seconde guerre mondiale, et par la suite, à diverses bases de l'Armée et de l'Aviation, y compris celle de Whitehorse (T.-du-Y.). Au cours de ses cinq dernières années de service, il a été affecté à la Base aérienne de Trenton.

Marié et père de quatre enfants, le major Andrews retourne à l'exercice de sa profession, à Toronto.

Le colonel C. E. Purdy, de Toronto, commandant de l'Ecole du Corps dentaire depuis juillet 1961, a pris sa retraite après vingt et un ans de service dans l'Armée canadienne.

Diplômé de l'Université de Toronto en 1933, le colonel Purdy a cessé d'exercer sa profession dans la vie civile en 1942, pour s'enrôler dans le Corps dentaire. Avant sa période de service au Camp Borden, il a occupé pendant quatre ans le poste de commandant de la 14<sup>e</sup> Compagnie dentaire, à Winnipeg. Le colonel Purdy a accepté de faire partie du corps enseignant de l'université de Toronto.

Après vingt-trois ans de service continu dans l'Armée canadienne, le lt-col. O. W. Crummey a pris sa retraite.

Diplômé de l'université Dalhousie en 1938, le lt-col. Crummey a reçu son brevet d'officier dans le Corps dentaire en mai 1940 et, à la suite de sa période de service outre-mer pendant la guerre, il a été affecté à divers endroits du Canada. Après avoir occupé le poste de commandant de la 1<sup>re</sup> Unité dentaire de campagne, en Allemagne, de 1955 à 1957, il a servi à Edmonton (Alb.), en qualité de clinicien principal à la caserne Griesbach.

#### UN OFFICIER DE MARINE DE É.-U. TERMINE SA PÉRIODE D'ÉCHANGE DE SÉJOUR

Le capitaine R. R. Troxell, du Corps dentaire de la Marine américaine, a récemment terminé une période d'échange de séjour de deux ans à l'Ecole du Corps dentaire, au Camp Borden, et il est retourné aux États-Unis où il exercera un emploi à la U.S. Naval Dental School, à Bethesda, Md.

Au cours de l'année dernière, le capitaine Troxell a rempli les fonctions d'instructeur en chef, à l'Ecole du Corps dentaire et il

sera remplacé à ce poste par le lieutenant-colonel J. W. Turner qui a fait partie du personnel, à Bethesda, pendant une période équivalente, comme représentant de l'Ecole du Corps dentaire affecté à cet endroit en vertu du Programme d'échange de séjour.

#### PROMOTIONS

Le quartier général de l'Armée a récemment annoncé les promotions suivantes: le lieutenant-colonel G. R. Covey a été promu au grade de colonel; le major L. A. Richardson, à celui de lieutenant-colonel; et les capitaines G. T. Crossman et L. E. Kelly, à celui de major; le lieutenant-colonel R. H. G. Cunningham est promu au grade de colonel; les majors J. C. Brick et L. R. Pierce, à celui de lieutenant-colonel; et les capitaines D. J. MacPhee et W. A. Sugars, à celui de major.

#### LE COLONEL MILLAR OCCUPE UN NOUVEAU POSTE

Directeur des Services dentaires (Marine) depuis deux ans, le colonel I. A. L. Millar vient d'être nommé sous-directeur général des Services dentaires pour les forces armées du Canada.

#### PREMIÈRE AFFECTATION DE DIX-HUIT NOUVEAUX DIPLOMÉS

On souhaite une cordiale bienvenue à dix-huit nouveaux capitaines qui se sont enrôlés dans le Corps dentaire, après avoir obtenu leur diplôme de quatre universités du Canada. La liste qui suit comprend le nom de l'université, ainsi que le lieu d'affectation: Cap. L. W. Armstrong, Alberta, Fort Churchill; Cap. G. E. Brissette, Montréal, le "Cornwallis;" Cap. J. H. G. Charron, Montréal, 3<sup>e</sup> Détachement, Corps de santé, Québec; Cap. J. C. L. Giguère, Montréal, Base aérienne de Namao (C.-B.); Cap. J. L. Girard, Montréal, Base aérienne de Winnipeg; Cap. G. W. Hill, Alberta, Base aérienne de Cold Lake (Alb.); Cap. R. W. R. Horn, Toronto, Base aérienne de Clinton (Ont.); Cap. J. M. M. Houde, Montréal, Poste de commande, 15<sup>e</sup> Compagnie dentaire, Montréal; Cap. M. B. Krickan, Alberta, le "Naden;" Cap. W. R. Kyle, Toronto, Base aérienne de Camp Borden (Ont.); Cap. R. M. MacDonald, Dalhousie, Base aérienne de Trenton (Ont.); Cap. C. M. Mason, Alberta, Caserne Griesbach, Edmonton; Cap.



P. R. McQueen, Alberta, Camp Valcartier; Cap. R. T. Mori, Alberta, Base aérienne de Trenton (Ont.); Cap. D. R. O'Hara, Toronto, Base aérienne de Rockcliffe (Ont.); Cap. A. N. Swanzey, Dalhousie, le "Stadacona;" Cap. M. D. Taylor, Alberta, Base aérienne de Saskatoon; et Cap. P. S. Wade, Toronto, Base aérienne de Saint-Jean.

### COMMISSION CONSULTATIVE AUPRÈS DU CORPS DENTAIRE

Les dentistes éminents dont les noms sont indiqués ci-après ont accepté de faire partie, pour une nouvelle période de trois ans, de la Commission consultative auprès du Corps dentaire:

le docteur J. E. Abra, Winnipeg (Man.), orthodontie;

le doyen J. W. Neilson, Université du Manitoba, Winnipeg (Man.), périodontie;

le doyen J. D. McLean, Université Dalhousie, Halifax (N.-E.), dentisterie opératoire;

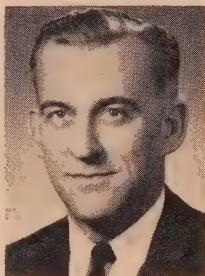
le doyen J.-P. Lussier, Université de Montréal, Montréal (P.Qué.), recherches en art dentaire;

le doyen H. R. MacLean, Université d'Alberta, Edmonton (Alb.), diagnostic des maladies buccales et radiologie;

le docteur D. W. Gullett, Secrétaire de l'Association dentaire canadienne, Toronto (Ont.), déontologie dentaire.

### NOUVEAU CONSULTANT EN PROTHÈSE DENTAIRE

Le docteur  
James McCutcheon



Le docteur James McCutcheon, B.A., D.D.S., M.S.D., F.A.C.D., F.I.C.D., professeur et doyen de la faculté de chirurgie dentaire à l'Université McGill, a accepté la nomination de consultant en prothèse auprès du Corps

dentaire. Diplômé de l'université McGill en 1945, le docteur McCutcheon a reçu le titre de M.S.D. en prothèse dentaire, à l'université du Michigan, en 1948. Nommé à la faculté de chirurgie dentaire de l'Université McGill à titre de professeur-adjoint en 1948, il est devenu doyen de la faculté en 1956. Membre actif de diverses sociétés professionnelles, il fait également partie de plusieurs comités. Il est président-élu de l'Académie de prothèse du Canada.

### DES OFFICIERS TITULAIRES DE BREVETS À COURT TERME SONT LIBÉRÉS DE L'ARMÉE

Les officiers dont les noms sont énumérés ci-après ont choisi d'être libérés de l'Armée canadienne. Ce sont: les capitaines M. A. Abramson, P. J. J. Cculombe, D. G. Gardner, O. A. Tucker, A. J. J. C. Vachon, L. C. Gray, L. J. E. Bossé, W. B. Hudgins, M. A. J. Lachapelle, A. G. MacKenzie et H. C. Stewart. Le major W. R. Cunningham, de la Milice, a cessé d'être appelé au service dans l'Armée.

### Les Facultés dentaires

#### LES FEMMES FONT DE MEILLEURS DENTISTES — DISENT DES DÉBATANTS

Deux étudiants dentaires de l'Université de Montréal ont défendu avec succès la résolution "Les femmes font de meilleurs dentistes que les hommes," dans un débat qui eut lieu il y a déjà plusieurs semaines. L'équipe de Montréal, formée d'Hélène Kicak et de Thomas Draper, ont battu l'équipe de McGill, formée de Morton Perel et de Claude Jolin et remporté le trophée offert par le Collège des chirurgiens dentistes de la province de Québec.

Quoiqu'ils aient proclamé que l'histoire de la dentisterie est remplie de noms d'hommes et non de femmes" et que "les meneurs de la dentisterie moderne sont tous des hommes," les étudiants de McGill défendaient une cause perdue. Les gagnants ont souligné que les femmes, dans le domaine intellectuel, sont égales aux hommes et ils ont cité des chiffres montrant que la femme se sert mieux de ses facultés que les hommes.

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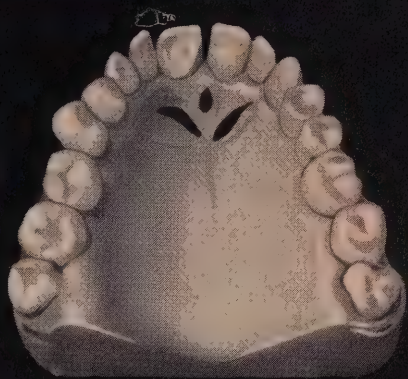
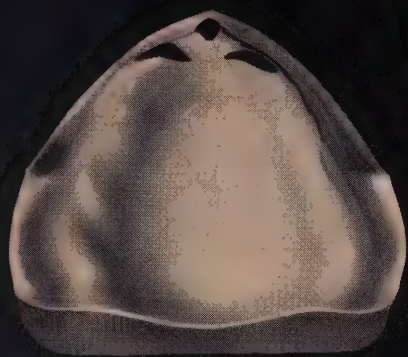
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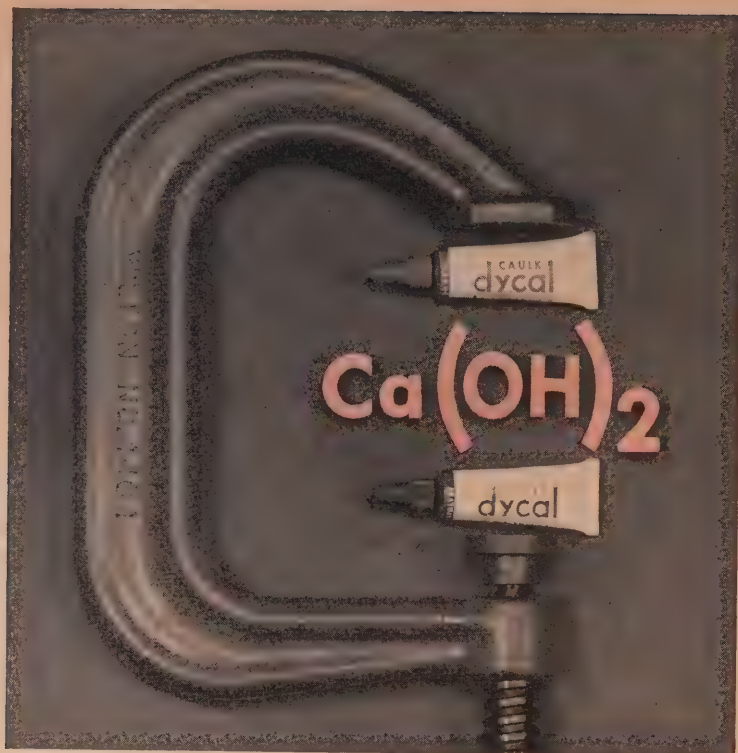
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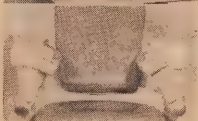
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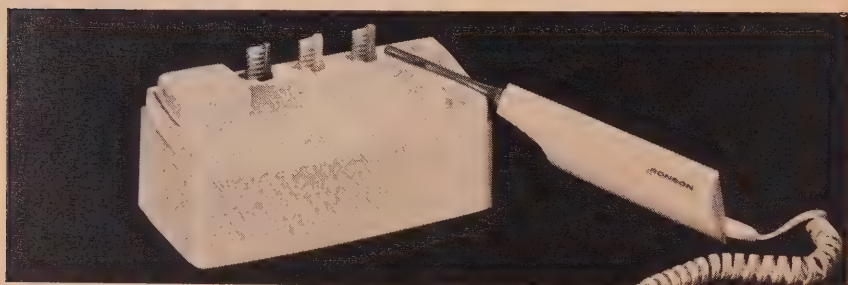
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of soreness . . . cessation of bleeding . . . and bacteriological.

*An average rating was computed from the five different assessments: 0—no results, 1—good results, 2—excellent results. See the following table:*

| Rating       | Ascorbic-<br>peroxide | Peroxyborate<br>(Amosan) | Neomycin-<br>bacitracin |
|--------------|-----------------------|--------------------------|-------------------------|
| 0            | 12 (52%)              | 3 (13%)                  | 10 (41%)                |
| 1            | 9 (39%)               | 8 (33%)                  | 11 (46%)                |
| 2            | 2 ( 9%)               | 13 (54%)                 | 3 (13%)                 |
| <b>Total</b> | <b>23</b>             | <b>24</b>                | <b>24</b>               |

*Conclusions:* AMOSAN was more effective than the other preparations, yielding excellent improvement in 54% of the cases, good improvement in 33% and no improvement in only 13%.

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★A Comparative Assessment of Three Medicaments for the Treatment of Acute Ulcerative Gingivitis of the Vincent's Type. A. Bryan Wade, B.Ch.D., F.D.S., G. C. Blake, M.B., B.S., F.D.S., J. D. Manson, B.Ch.D., F.D.S., Elsebeth G. B. Andersen (Tandlaege, Royal Dental College, Copenhagen), Margaret E. Arnold, B.C.S., L.D.S. Royal Dental Hospital of London School of Dental Surgery and the Institute of Dental Surgery University of London. British Dental Journal, Volume 111, Number 8, October 17, 1961.

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|                    |                                                 |                                                                                                                                                                                                                                                                                                                           |
|--------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| "222"<br>TABLETS   | (white)<br>$\frac{1}{8}$ gr. Codeine phosphate  | <div style="display: flex; align-items: center;"> <div style="font-size: 4em; margin-right: 10px;">}</div> <div> <p>— <b>C</b> Acetylsalicylic acid .... <math>3\frac{1}{2}</math> gr.</p> <p>Phenacetin ..... <math>2\frac{1}{2}</math> gr.</p> <p>Caffeine citrate ..... <math>\frac{1}{2}</math> gr.</p> </div> </div> |
| N "282"<br>TABLETS | (yellow)<br>$\frac{1}{4}$ gr. Codeine phosphate |                                                                                                                                                                                                                                                                                                                           |
| N "292"<br>TABLETS | (pink)<br>$\frac{1}{2}$ gr. Codeine phosphate   |                                                                                                                                                                                                                                                                                                                           |

Dosage: One or two tablets as required.  
Packaged as per your prescription.

N Telephone narcotic prescription permitted.

For less severe pain when codeine is not required — Recommend "217" Tablets

The synergistic analgesic formula basic to all Frosst pain-relieving preparations.



**Charles E. Frosst & Co.**  
MONTREAL, CANADA



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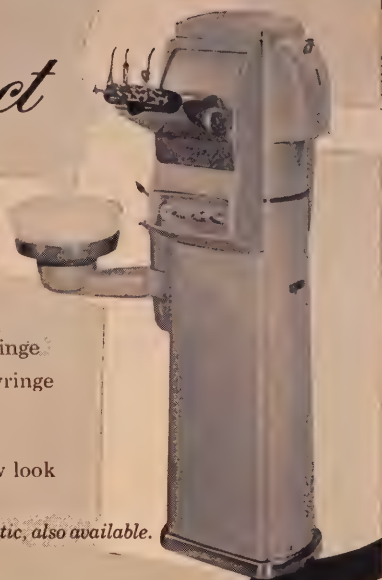
...RITTER DELUXE COMPACT...

...WITH THESE OUTSTANDING FEATURES...

# Ritter

## *Deluxe Compact*

- \* Instru-Matic operation
- \* AIROTOR built-in  
(Dynacaire optional)
- \* Built-in high-efficiency  
Aspirator
- \* Built-in Warm Air Syringe
- \* Built-in Thermo Water Syringe
- \* Built-in Multi-use Spray Syringe
- \* Cup Filler with warm  
and cold water
- \* New silhouette with the low look



*Ritter Compact without Instru-Matic, also available.*

...SEE IT IN OUR SHOWROOM NOW...

# DENCO

Hamilton  
Quebec  
Saskatoon

Ottawa  
Toronto  
Calgary

Montreal  
Winnipeg  
Edmonton

THE TREND IS TO DENCO





## To clean dentures effectively and safely WERNET'S DENTU-CREME & DENTURE BRUSH

The professional skill shown in the design and construction of fine dentures is preserved and enjoyed only if your patients provide proper attention to cleaning and maintaining the attractive appearance and fine detail. The desirable course of action is regular use of Wernet's Dentu-Creme and Denture Brush.

Many dentists recommend this combination for quick, thorough cleansing—food particles, plaque and stains are removed from all denture surfaces without danger to delicate detail.

Dentu-Creme has a foaming action which penetrates crevices and

grooves. The activated formula may be used with complete safety on all denture materials: it eliminates the dangers of harsh alkaline chemicals or gritty household cleansers, and is more effective than ordinary toothpaste or mild soap.

The large easy-grip handle and the two functionally designed tufts of nylon bristles make Wernet's Denture Brush the *fitting* companion to fine Dentu-Creme.

WERNET DIVISION  
BLOCK DRUG COMPANY (CANADA) LTD.

36 Northline Road  
Toronto 16, Ontario

*Quality Products for Dental Health*

1. Calm the apprehensive patient before surgery.



2. With dependable ANACIN Analgesic Tablets.



3. ANACIN calms jittery nerves, relieves dental pain fast—gives greater total effect.



**ANACIN**  
ANALGESIC TABLETS

*When a stronger anodyne  
is indicated, use  
ANACIN WITH CODEINE*

WHITEHALL LABORATORIES LIMITED, TORONTO, ONTARIO

# NEW TRUE DENTALLOY FILLING YESTERDAY



## 40,000 p.s.i. TODAY!

(13,000 p.s.i. after one hour! 40,000 p.s.i. in twenty-four hours!) Your amalgam restorations develop an early strength that will bear the brunt of mastication in an exceptionally short time, when you select quality-controlled S. S. White New True Dentalloy. It quickly tritulates to a velvety, fine grained, grit-free amalgam, condenses uniformly for better adaptation to the prepared cavity, carves with wax-like smoothness, develops high crushing strength with unmatched speed, polishes to a high luster. Depend on New True Dentalloy . . . and the S. S. White name . . . to complement your operative skill.

**FINE GRAIN**

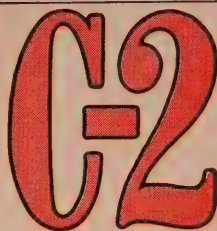
**TABLETS**

# NEW TRUE DENTALLOY® BY S. S. WHITE®



**S. S. WHITE COMPANY OF CANADA LIMITED**  
261 Spadina Ave., Toronto

## FOR PAIN



CETYLOID COMPOUND TABLETS

The analgesic effect of well known C-2 tablets relieves and controls the moderately severe pain of:

- Single or multiple extraction — dry sockets
- Inflammation of the alveolar bone and tissues
- Emergency relief from toothaches, abscess
- Headaches from nervous apprehension

Indicated in the treatment of psychosomatic pain

Each tablet contains:

Acetylsalicylic acid... 3½ gr.

Phenacetin..... 2½ gr.

Caffeine..... ¼ gr.

Camphor

monobromated..... 1/10 gr.

Codeine phosphate. 1/8 gr.

Adult dose: 1 or 2 tablets

with water, every 4 hours.

Daily dose 6 tablets.

Supplied: 18's-\$5.5¢, 60's-

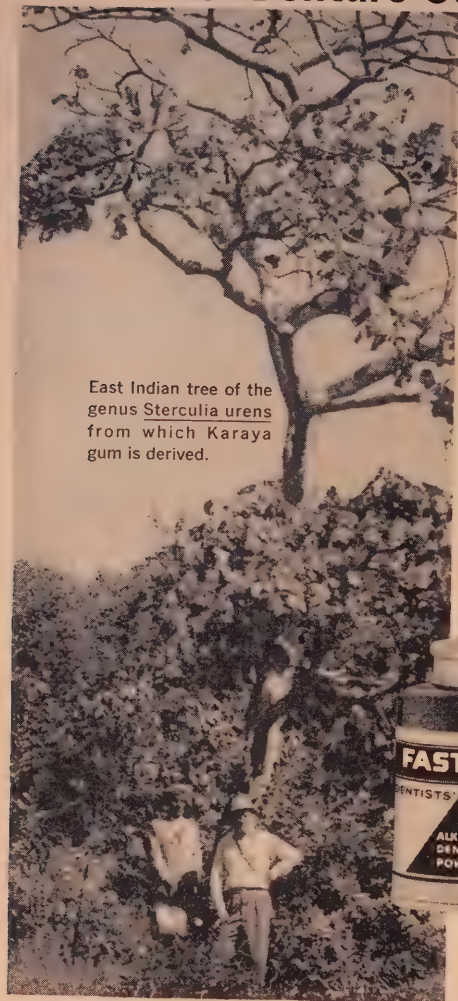
\$1.45, 100's-\$2.00.

## WAMPOLE

Henry K. Wampole & Co., Ltd. Perth, Ontario



# ONLY IN *India* can the ideal gums for Denture Stabilizers be found



East Indian tree of the genus *Sterculia urens* from which Karaya gum is derived.

Over a period of many years FASTEETH has been the most widely used and accepted product of its kind by denture wearers. This popularity has been the result of the extremely careful selection and control of its ingredients—the principal one of which is gum karaya (*Sterculia urens*), a hydrophilic colloid with unique characteristics.

Karaya gum is the exudate of mature trees of considerable size growing on the broad plateau of north central India in the Madhya Pradesh district. The trees are tapped by slashing at certain seasons of the year, and the liquid gum which hardens when exposed to the air is collected in dry globules for rough grading according to color and size.

The gums imported into America are required to meet the N.F. Standards but this is only the first step of the exacting specifications necessary for its ultimate use in FASTEETH. After being milled to an extremely fine particle size, tests are run for viscosity in solution, consistency and purity. Karaya of the correct type takes on water and swells in it, rather than dissolving and washing away. It is this characteristic, in particular, which is most carefully controlled in the FASTEETH formula.

Finally, the introduction of a small amount of sodium borate buffers the acidity of the natural gum and heightens its cohesive properties. Add pure oil of peppermint and the result is FASTEETH which the testimony of thousands indicates is a highly superior product.



FASTEETH is made exclusively by Cleveland's Drug Limited, Toronto, Ontario.

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*Manufacturers of the Kerr Bur ...  
developed to meet the demands  
of precision dentistry*

KERR FRONT-SURFACE MIRRORS reflect no secondary "ghost" images because there is just one true reflecting surface and it's on the front of the lens rather than the back. Result: sharp, true reflection that eases eyestrain, makes work less tiring and insures greater accuracy in high-speed operation. Both cone socket and plain stem types are available in  $\frac{7}{8}$ " and 1" sizes. Order today!

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**Provincial and Municipal Bonds and Debentures**  
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**A. E. Ames & Co.**  
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*Business Established 1889*

*Offices in principal Canadian Cities and in New York, London, and Paris*

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**FINISH WHAT THE TOOTHBRUSH LEAVES UNDONE**

## HERE'S WHY THEY ARE SO EFFECTIVE

The contacted teeth surfaces are cleaned and polished, food particles that cause **BAD BREATH** and **DECAY** are removed, and cervical borders of fillings and crowns are rendered bright and clean and far less likely to recurrence of decay.

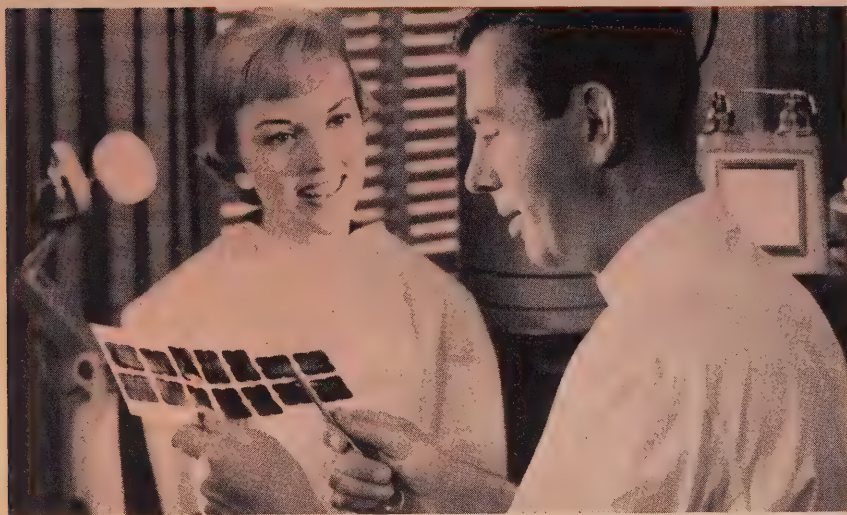
This cleansing effect provides an invaluable aid in the treatment of periodontal diseases and the maintenance of optimum gingival health. Join the thousands of dentists who use and recommend **STIM-U-DENTS**.

**Ask for FREE SAMPLES for Patient Distribution**  
*Simply mail your professional card or letterhead marked "Samples".*



**STIM-U-DENTS, INC., 14035 Woodrow Wilson, Detroit 38, Mich.**

## the role of *Amurol* in Preventive Dentistry



Preventive medicine has eliminated many common diseases that have plagued mankind for generations.

But how about preventive *dentistry*?

Tooth decay, one of the most common diseases of man, affects 95% of our population. What can be done?

Water fluoridation is, of course, one of the most efficient and economical means.

A conscientious oral hygiene program is important in reducing dental caries.

Reduction of sugar intake is another essential step. <sup>(1)</sup>

For most patients abstinence from candy is difficult. For them Amurol substitutes sorbitol for sugars, and satisfies the hunger for sweets without promoting caries.

(1) Sugar and Dental Caries. The Journal of the American Dental Association—Vol. 47, Number 4, October 1953.



### SUGARLESS "SWEETS"



# KEEP YOUR RELINES

# COOL

USE  
*Cosmos*  
DENTURE  
CORRECTIVE



... the true mouth-cure re-  
liner because it cures in the  
mouth *without* uncomfortable  
temperature rise; the curing  
peak is only 50°C (121°F)  
— the temperature of luke  
warm coffee.

... this product appears on the  
American Dental Association list  
of Certified Dental Materials.

17 unit Professional Pkg.  
only \$5.75 at your Dealer  
or mail this ad to receive  
**FREE** 2 unit package from

*Cosmos*

DENTAL PRODUCTS, INC.

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**FOR SALE OR RENT:** Excellent location in heart of Montreal, Quebec, Crescent street. Lucrative dental practice, fully equipped, for October first or sooner. Apply to: 492 Wood Ave., Westmount, Montreal. Telephone: WE: 5-9720.

(continued page 40)

# BROXODENT

THE AUTOMATIC-ACTION TOOTHBRUSH

**...with the up-and-down  
brushing motion  
you recommend  
to your patients!**

Patients' brushing habits are normally not as good as you want them to be. Now, with Broxodent, it's easy for patients to practice what *you* preach.

The exclusive Broxodent action enables the desired vertical brushing motion to be achieved—*easily!* This action removes food particles from teeth and interdental spaces quickly and thoroughly, helping to keep teeth clean and healthy.

At the same time Broxodent has a gentle yet stimulating effect on gingival tissue blood circulation, giving gums a thorough, healthful massage.

Ask your Squibb representative for the "Clinical Research Notes" on Broxodent which were compiled from studies conducted in leading dental schools and clinics and by private practitioners.

**BROXODENT—To Improve And Maintain Dental Health In Your Patients.**

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SQUIBB QUALITY—THE PRICELESS INGREDIENT



# IF YOUR RELINES GET

# HOT

## USE *Cosmos* DENTURE CORRECTIVE

... the true mouth-cure re-liner because it cures in the mouth *without* uncomfortable temperature rise; the curing peak is only 50°C (121°F) — the temperature of luke warm coffee.

... this product appears on the American Dental Association list of Certified Dental Materials.

17 unit Professional Pkg.  
only \$5.75 at your Dealer  
or mail this ad to receive  
**FREE** 2 unit package from

## *Cosmos*

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Long Island City, New York

**FOR RENT — OTTAWA, ONTARIO:** Dental Arts Building, Centre of town. Two operating rooms, offices, modern, air-conditioned. Janitor services — parking. Suitable for general practitioners, orthodontist, periodontist. Rent: \$125.00 monthly and up. Apply: 226 O'Connor St., Ottawa. Telephone: CE, 2-0903.

**FOR SALE OR LEASE:** Thriving dental practice in the Niagara Peninsula. Modern equipment, well planned, two chair office. Available immediately. Owner leaving on graduate training. Apply C.D.A. Box 353.

**IDEAL LOCATION:** Practice for sale — owner relocating. One of Toronto, Ontario's smartest offices in modern Medical Centre. Well equipped. Excellent northeast Toronto area. Gross more than twice the average. Telephone: 487-1123 or write: C.D.A. Box 360.

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**DENTIST WISHES TO SELL MODERN PRACTICE:** Located in Willowdale area of Metro Toronto. Two operatories sold with or without equipment. Would consider exchanging practice with a dentist located in a smaller community. For additional information write: C.D.A. Box 364 or telephone: BA, 1-5458.

**FOR SALE — IN BRITISH COLUMBIA:** Active two chair dental practice. Fully equipped. Located in progressive interior city amidst excellent hunting, fishing, skiing. Please reply to: C.D.A. Box 365.

(continued page 42)



# Polychrome®

THE ANTERIOR TEETH WITH THE NEW COLOR DIMENSION

*Unique Blendability for Personalized Dentures*



## Polychrome

*Personalized Dentures*

*Promote Practice*

One of the reasons for the rapidly expanding use of POLYCHROME Anteriors is their unique blendability! All POLYCHROME colors blend with each other, with vital teeth and with UNIVAC and VERIDENT colors.

Yes...whether it's for a partial or full denture, no other anteriors provide such an unlimited range of colors and molds from which to select the precise color, mold and markings required for *truly personalized restorations!*

Patient recommendations follow, naturally, when you specify **POLYCHROME** for Personalized Full and Partial Dentures.

Call your UNIVERSAL dealer for a demonstration of how personalized living esthetics are created with POLYCHROME Anteriors.

UNIVERSAL DENTAL COMPANY  
48th at Brown St., Philadelphia 39, Pa.



**FOR SALE—DENTAL PRACTICE:** In community just outside Toronto, Ontario. Only dentist in area serving more than 10,000 people. Office has 600 sq. ft., two operatories one of which is fully equipped with most modern equipment (1963), private office, separate lab., and darkroom. Dentist now operating is returning to take post-graduate course. This is ideal opportunity for recent graduate or established dentist who wishes to have second office. Will sell for cost. Apply: C.D.A. Box 367.

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**A VENDRE OU A LOUER:** Bureau tout équipe "air rotor" salle d'attente et Laboratoire — clientèle établie depuis trente-cinq ans — Seul dentiste dans une paroisse de trois milles familles — Situé en face de l'Eglise. — Pour renseignement s'adresser à: Mme J. Roland Brossard, 1470 est, Ontario, Montréal. Téléphone: 521-0370—Heures: 10 hres A.M. à 1 hre. P.M.

**FOR RENT:** Office space and waiting room in modern one-storey building. Physician only other occupant. Dental room, laboratory and office. Parking space. Excellent location and established dental practice in growing city of 16,500. Twenty minutes drive to downtown Winnipeg. Vacancy created through recent death. Rent reasonable. Apply to: G. A. Law, M.D., 108 Regent Avenue East, Transcona, Manitoba.

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**FOR SALE:** Located in Calgary, Alberta. General practice and office equipment. Located in heart of the city. Very low price and good terms. Write: C.D.A. Box 369.

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## OPPORTUNITIES AVAILABLE

**ONE OR TWO DENTISTS WANTED:** to join a modern Toronto, Ont. medical clinic. Two modern, fully equipped operatories and labs. Several thousand patients' charts and busy practice guaranteed from the start. Apply, giving all pertinent information to C.D.A. Box 321.

(continued page 44)



designed to assist normal  
development of sound bones  
and teeth

**"CAL-D-C"**

BRAND

A dietary supplement of calcium and vitamins D and C

Bone meal (edible) ..... 7½ gr. (0.5 G.)

An excellent source of calcium, phosphorus  
and trace elements, including fluorine.

Vitamin D ..... 500 Int. units  
Ensures adequate absorption of calcium.

Vitamin C ..... 37.5 mg.  
For health of supporting tissues.

**DOSAGE:** Two tablets daily with water.

Bottles of 50 and 100 tablets.



# DOUBLE

**YOUR PROTECTION!**



## unacaine HCl

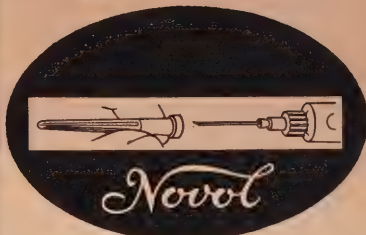
(Metabutethamine Hydrochloride)  
3.8% with Epinephrine 1:60,000

- RAPID • PROFOUND
- WELL TOLERATED

UNACAINE has been used in millions and millions of injections and found to produce deep, remarkably intense anesthesia almost immediately. Profound anesthesia is maintained for about 1 hour (just right for high speed operative procedure). Then it disappears and the return to normal is quick and uneventful.

The possibility of long-lasting numbness or of tongue biting at night is eliminated.

Use UNACAINE...the local anesthetic that knows when to stop!



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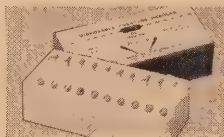
- PRE-STERILIZED! • FIT ANY SYRINGE!
- FIT LIKE REGULAR NEEDLES!
- HUB COLOR INDICATES LENGTH OF NEEDLE!

Just as UNACAINE assures safe anesthesia, so the ingeniously designed Novol Disposable Needle provides that extra margin of safety that impresses patients and builds practice.

*Novol Disposable Needles* are easy to use! They fit any type of cartridge syringe just like regular needles and chucks. The specially threaded chuck insures perfect fit...needle shafts can't slip...can't be damaged in handling...and the guard can't pop off.

*And—only Novol Disposable Needles come in 2 different hub colors to indicate length of needle.*

Available in 25 and 27 gauge; short (grey hub) and long (white hub) in boxes of 100 and 500. (Also available in 29 gauge, short only.) Through your dealer.



**Novocol**

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*"Novocol products sold in Canada are made in Canada"*

## dental caries

### LOW COST Sodium Fluoride Tablets

Afford protection to patients for  
less than 1/4c daily!

Made available to satisfy the demands of the dental profession to aid in the prevention of dental caries.

Each tablet contains 2.21 mg. Sodium Fluoride to liberate 1 mg. Fluoride Ions. Recommended for pre-natal use and for children up to 15 years of age. Also extremely effective in the treatment of rampant caries in young adults up to 30 years of age.

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1,000 tablets — \$4.95 sug. list

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LIMITED

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Established 1892

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MAY-1964

## CLINICIANS AND OTHER DENTISTS ARE INVITED

Fifth Biennial International Dental Seminars—an official program of three seminars held in Tokyo, Kyoto/Osaka and Bangkok—the most important programs in which American dentists participate regularly in the Orient. Travel arrangements and social activities are correspondingly as outstanding. There is no finer way for dentists to visit the Orient today.

Howard Tours of Oakland, California, will operate the official, but optional jet tour covering Japan, Hong Kong, and Bangkok. Price:

**26 Days, for only \$1684**

\*Only U. S. office authorized to represent this project.

APPLY

**\*INSTITUTE OF INT'L SEMINARS**  
538 Grand Ave., Oakland 10, Calif.

**DENTIST REQUIRED** to assist in prosthetic practice in Toronto. Four and one half day week. Salary. Apply C.D.A. Box 345.

## DENTIST REQUIRED

for Northwestern Ontario town. Suite and hospital facilities available at nominal rent. Guaranteed net of \$10,000.

Apply to: Manager

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Manitouwadge, Ontario

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Application forms are to be obtained from and returned to the Personnel Coordinator, City Hall, Calgary, Alberta.

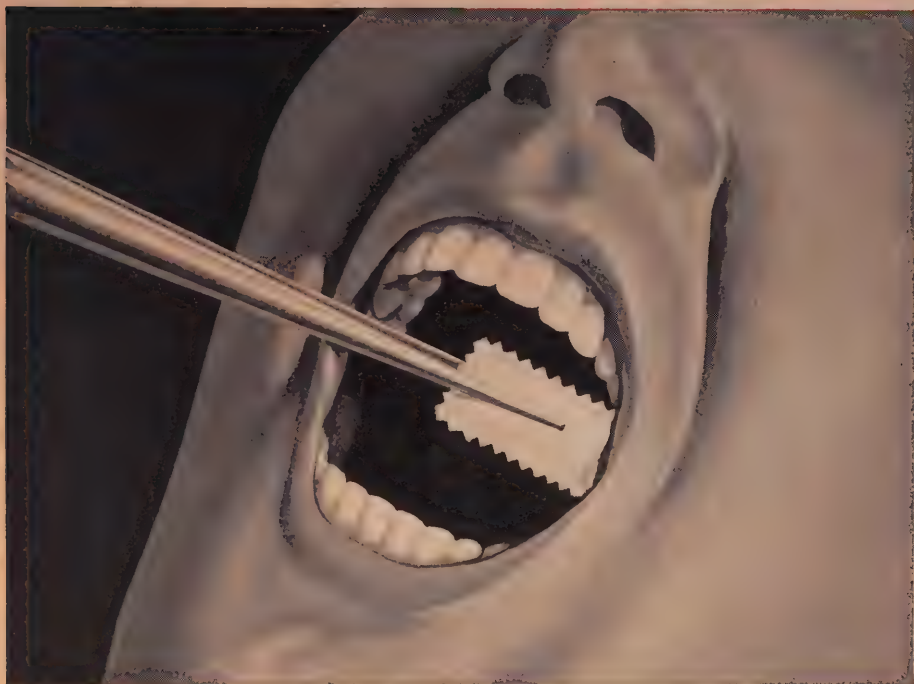
**DENTAL TECHNICIANS WANTED:** Two Chrome, and Crown and Bridge men. Must be of high calibre. Responsible positions. Attractive offers for top notch men. Please apply: Hirsh Laboratories Limited, 495 Adelaide Street West, Toronto 2B, Ontario.

**EXCELLENT OPPORTUNITY FOR A DENTIST:** interested in a Children's Dental Program which has been in operation since 1950. For information and application, write to: Mr. J. Prenevost, Chairman, Regional Board, Assiniboia, Saskatchewan.

**EXCELLENT OPPORTUNITY FOR DENTIST:** to locate in town of Stony Plain, Alberta, 20 miles from Edmonton on four lane highway. Trading area population over 6,000. Public Health Dentist in the area stimulates keen interest in dental health. Further particulars: Dr. P. Finnigan, Stony Plain Health Unit, Stony Plain, Alberta.

local treatment  
for local pain

# POLORIS



**safe, sure, effective... simple and economical to use**

Poloris Poultice produces counter-irritation to stimulate capillary activity—increases blood flow to relieve pain and speed natural processes of repair. Applied at the site of pain, this local therapy provides a better psychological effect and avoids systemic reactions.

*Local analgesia for local dental pain is of clinical value in treatment of*

*abscess • gum inflammation  
non-serious emergency pain • erupting  
third molar • pain after extraction*

POLORIS IS ADVERTISED  
TO THE PROFESSION ONLY

*Professional samples available on request.*

**POLORIS DIVISION OF BLOCK DRUG CO. (CANADA) LTD.**

36 Northline Road, Toronto 16, Ontario

*Quality Products for Dental Health*



## JOURNALS WANTED

Library wishes to complete its holdings of Dominion Dental Journal. Lacks issues from v.20, 1908 to v.33, 1921; v.35, 1923, and v.46, 1934. Also wants Canadian Dental Research Foundation Bulletin, v.1-6, 8-19. What have you to offer?

Address correspondence to: The Librarian, Dental Library, University of Manitoba, 780 Bannatyne Avenue, Winnipeg 3, Manitoba.

## Recommend Dento for daily denture care

When patients ask for advice on care and hygiene for their dentures you cannot do better than to recommend 'Dento' for sparkling cleanliness and 'Dento-fast' the tasteless powder for keeping dentures firmly in place.

'Dento' has a double cleansing action—the alkalinity of the solution loosens the film of adherent organic matter, allowing the released active oxygen to exercise its natural bleaching and sterilising action. This double-action is complementary and inter-dependent. Fifteen minutes immersion daily in 'Dento' keeps acrylic dentures 'dentist new'—fresh, sparkling and sterile.



# Dento

the brushless denture cleaner

Write for **FREE SAMPLES** of 'Dento' and 'Dento-fast' for test and patient distribution.

CANADIAN AGENTS  
Messrs. Realmont Ltd.,  
Cowansville, Quebec, Canada.

Made in England by F. C. Calvert & Co. Ltd.

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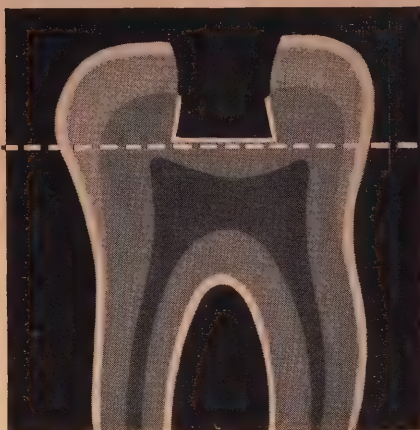
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*L'Association Dentaire Canadienne*

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1963

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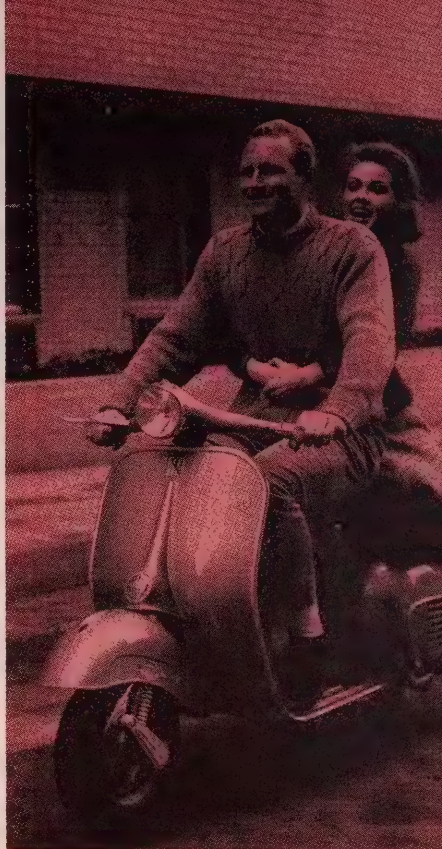
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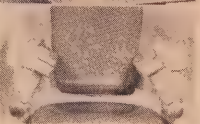
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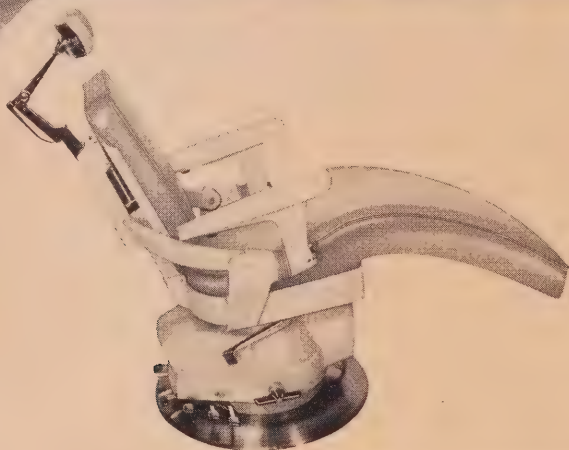
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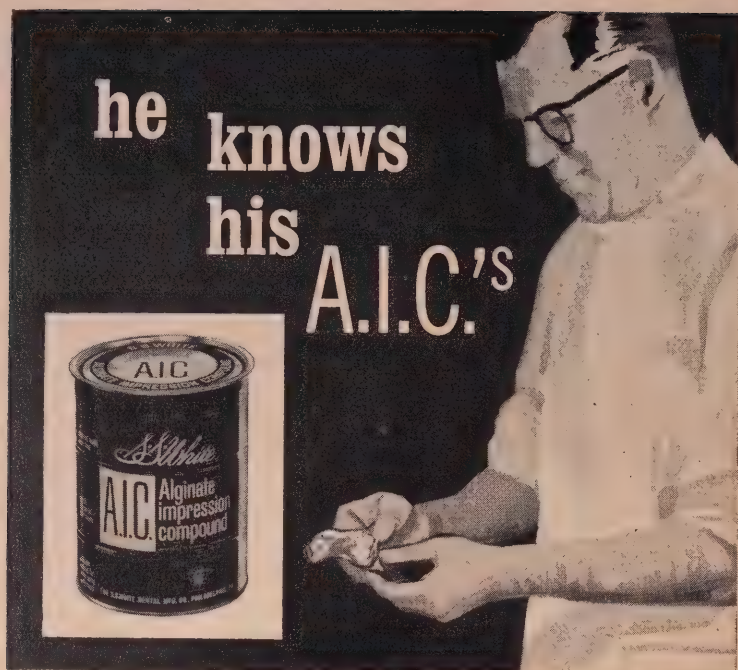
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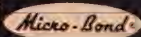


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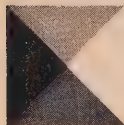
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1. J.A.D.A. 62:466 (April) 1961. 2. J.A.M.A. 180:94 (April 7) 1962.



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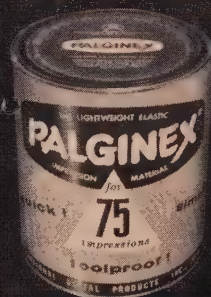
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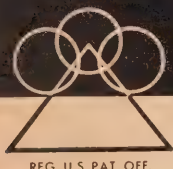
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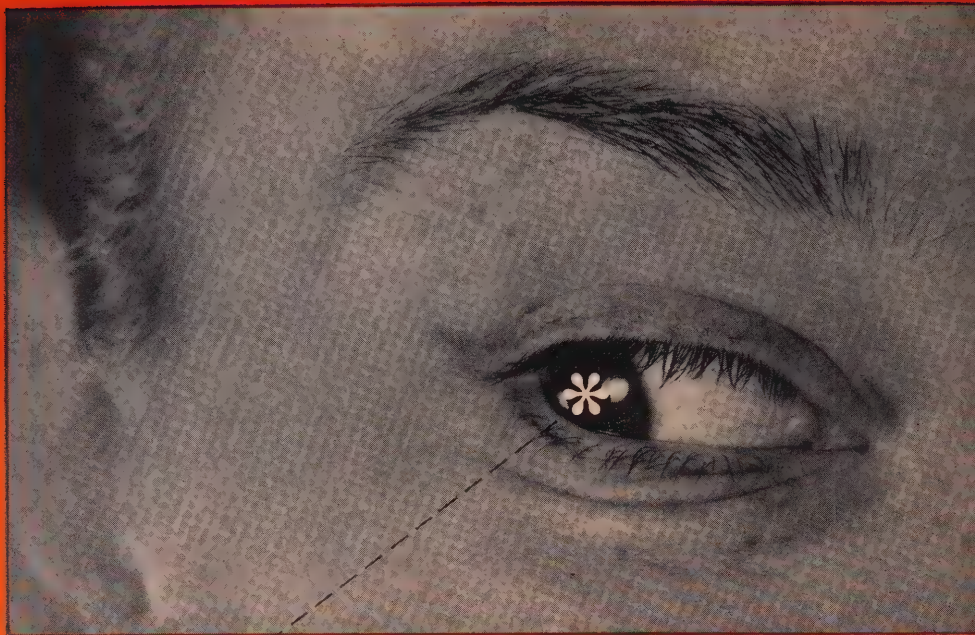
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Subscription price of Journal in Canada, Great Britain, the United States and all other countries, \$5.00 per year.

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*The Canadian Dental Association*

Volume 29

Number 12

Toronto

December 1963

JOURNAL

*L'Association Dentaire Canadienne*

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### **Treatment of bruxism by bite guards and bite plates**

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Bruxism is the clenching and grinding of the teeth when not masticating or swallowing. Aetiological factors include nervous tension and local factors, such as cuspal interferences.<sup>1,2</sup>

Bruxism can be initiated by systemic, psychological, occupational, and occlusal factors. There is usually a combination of general and local factors influencing each other and setting up a vicious circle. In

an individual under mental stress cuspal interferences on terminal hinge closure and on the non-working side seem to be significant.<sup>2</sup>

Bruxism may be associated with temporomandibular joint dysfunction and facial pain.<sup>3,4</sup> It may also be an aggravating factor of already existing periodontal disease.

Treatment can take the form of general relaxation and/or local treatment such as selective grinding or the use of bite guards. Either therapy may break the vicious circle. The advantage of bite

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Presented at the Annual Meeting of the Canadian Dental Association, Toronto, May 22, 1963.

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FIGURE 1 Acrylic bite guard in the lower arch articulating with the upper arch.

guards and bite plates is that no irreversible operation is performed on the teeth.

The purposes of bite guards and bite plates may be one or more of the following: (1) to cure bruxism, if this is possible; (2) to protect single teeth and their periodontium against harmful occlusal stresses, (3) to protect the teeth against further abrasion.<sup>1</sup>

The present article deals with various types of bite guards and plates and their therapeutic effects. The types of appliances evaluated are: (1) the hard acrylic bite guard for the lower or upper jaw, and (2) the Hawley or modified Hawley type of bite plate. Further, we have had some experience with (3) the resilient bite guard in the lower jaw, and (4) the combined hard and resilient bite guard in the lower jaw.

1. For several years the hard acrylic bite guard, preferably in the lower jaw, was the type in general use at the Royal Dental School, Malmö. This bite guard establishes balanced articulation with the teeth of the opposing jaw (Figure 1).

2. A Hawley or modified Hawley type of bite plate has been recommended for the treatment of bruxism,<sup>3</sup> and has been reported to have a therapeutic effect in certain cases of headache.<sup>3</sup> The plate is usually worn only at night. In the last three years (1960-62) we have been trying out the modified Hawley plate with a flat horizontal bite level.

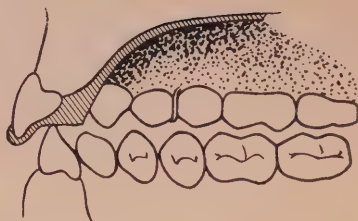


FIGURE 2 Schematic drawing of the modified Hawley plate.

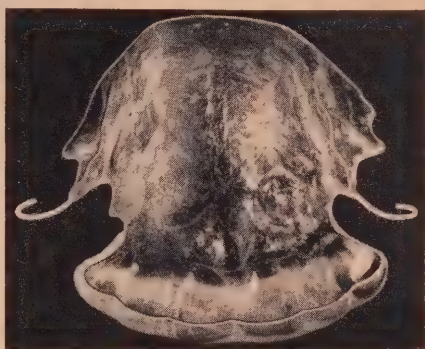


FIGURE 3 Modified Hawley plate. Note the type of clasp.

The shape which is presently used at our school appears in Figures 2 and 3. The acrylic resin covering the incisal edges gives the retention and support otherwise obtained by the labial wire retainer. The lower front teeth make contact with the flat horizontal bite level. A free-way space of only  $\frac{1}{2}$ -1 mm. is allowed.<sup>3</sup> The clasps between the bicuspids on each side are simpler and more stable than the usual single clasp.

The modified Hawley plate is much simpler to make and to adjust than the bite guards.

3. The resilient bite guard for the lower jaw with impressions of the opposite jaw in centric occlusion makes no provision for gliding contact. This bite guard is used in cases of clenching only.

TABLE 1 Number of patients treated with the different types of bite guards and bite plates.

| Type of appliance                     | Hard acrylic (lower) | Hard acrylic (upper) | Resilient acrylic (lower) | Combined hard and resilient acrylic (lower) | Modified Hawley plate |
|---------------------------------------|----------------------|----------------------|---------------------------|---------------------------------------------|-----------------------|
| Number of patients (total number 184) | 61                   | 10                   | 5                         | 4                                           | 104                   |
| Average observation time (months)     | 35                   | 24                   | 40                        | 32                                          | 17                    |

4. The combined hard and resilient bite guard in the lower jaw has a hard acrylic core and a resilient acrylic layer that articulates with the opposing teeth. Satisfactory results seem to have been obtained, although the number of cases treated is small.

#### MATERIAL

One hundred and eighty-four patients, 41 males and 143 females, age 16 to 71, were examined. Most bite guards and bite plates were made for persons aged 30-40 years. The mean age for males was 35 and for females 40 years.

Included in the tables is the bite guard which patients use at present. A minor group, "bruxism with no symptoms" was not included in the present report. All of

the patients have some type of symptom.

The number of patients treated with the different types of bite guards and bite plates is shown in Table 1.

#### RESULTS

The following symptoms in many cases seem to be connected with bruxism:

(a) Local temporomandibular joint symptoms, i.e. pain and tenderness of the joints, decreased mobility, subluxation, etc.

(b) Facial pain and headache<sup>3</sup> pain in the back of the neck, stiffness in the neck, and tinnitus.

(c) Fatigue and pain of the chewing muscles<sup>1</sup> and soreness of periodontal ligament.

TABLE 2 Hard acrylic bite guard in the lower jaw. Observation time 35 months.

|                                                                          | Cured | Considerable improvement | Improved | No improvement | Number of patients |
|--------------------------------------------------------------------------|-------|--------------------------|----------|----------------|--------------------|
| A. Local temporomandibular joint symptoms                                | 3     |                          |          |                | 3                  |
| B. Facial pain and headache                                              | 2     | 1                        |          | 1              | 4                  |
| C. Fatigue and pain of chewing muscles, soreness of periodontal ligament | 28    | 1                        |          |                | 29                 |
| A + B                                                                    | 7     | 1                        | 1        |                | 9                  |
| A + C                                                                    | 4     |                          |          |                | 4                  |
| B + C                                                                    | 4     | 2                        | 1        |                | 7                  |
| A + B + C                                                                | 4     |                          | 1        |                | 5                  |
| Total                                                                    | 52    | 5                        | 3        | 1              | 61                 |

TABLE 3 Modified Hawley plate. Observation time 17 months.

|                                                                             | Cured | Considerable improvement | Improved | No improvement | Number of patients |
|-----------------------------------------------------------------------------|-------|--------------------------|----------|----------------|--------------------|
| A. Local temporomandibular joint symptoms                                   | 6     | 4                        |          |                | 10                 |
| B. Facial pain and headache                                                 | 3     | 3                        | 3        | 2              | 11                 |
| C. Fatigue and pain of chewing muscles and soreness of periodontal ligament | 33    | 3                        |          |                | 36                 |
| A + B                                                                       | 6     | 8                        |          | 3              | 17                 |
| A + C                                                                       | 4     |                          |          | 1              | 5                  |
| B + C                                                                       | 6     | 5                        | 1        |                | 12                 |
| A + B + C                                                                   | 7     | 5                        | 1        |                | 13                 |
| Total                                                                       | 65    | 28                       | 5        | 6              | 104                |

TABLE 4 Hard acrylic bite guard in the upper jaw. Observation time 24 months.

|                                                                          | Cured | Considerable improvement | Improved | No improvement | Number of patients |
|--------------------------------------------------------------------------|-------|--------------------------|----------|----------------|--------------------|
| A. Local temporomandibular joint symptoms                                | 1     |                          | 1        | 1              | 3                  |
| B. Facial pain and headache                                              | 1     | 1                        |          |                | 2                  |
| C. Fatigue and pain of chewing muscles, soreness of periodontal ligament | 3     |                          |          |                | 3                  |
| A + B                                                                    |       |                          |          |                |                    |
| A + C                                                                    |       |                          | 1        |                | 1                  |
| B + C                                                                    | 1     |                          |          |                | 1                  |
| A + B + C                                                                |       |                          |          |                |                    |
| Total                                                                    | 6     | 1                        | 2        | 1              | 10                 |

Tables 2-5 illustrate the combination of the symptoms enumerated under (a), (b) and (c) and the effect of the treatment by the various appliances.

#### DISCUSSION

Of 184 patients 129 were completely relieved of symptoms. In 45 patients the symptoms were improved, whereas in 10 the symptoms were unaffected. Table 6 illustrates a comparison between the different types of bite guards.

No definite conclusions can be drawn concerning the superiority of one type of bite guard over the other, because of the variation of the number of patients in the different groups. Moreover, in some cases different types of bite guards were used until the most suitable type for that particular patient had been found.

An important aim of the present follow-up examination was to evaluate the risk of overeruption of the side teeth after prolonged use of the modified Hawley plate.

TABLE 5 Resilient acrylic bite guard and combined hard and resilient bite guard in the lower jaw. Observation time 40 months (resilient); 32 months (combined).

|                                                                             | Cured | Considerable improvement | Improved | No improvement | Number of patients |
|-----------------------------------------------------------------------------|-------|--------------------------|----------|----------------|--------------------|
| A. Local temporomandibular joint symptoms                                   |       |                          | 1        |                | 1                  |
| B. Facial pain and headache                                                 |       |                          |          | 1              | 1                  |
| C. Fatigue and pain of chewing muscles and soreness of periodontal ligament | 1     |                          |          |                | 1                  |
| A + B                                                                       |       |                          |          | 1              | 1                  |
| A + C                                                                       | 1     |                          |          |                | 1                  |
| B + C                                                                       | 2     |                          |          |                | 2                  |
| A + B + C                                                                   | 2     |                          |          |                | 2                  |
| Total                                                                       | 6     |                          | 1        | 2              | 9                  |

Three to four hundred patients now use the Hawley plate. So far, we have observed an overeruption in only three of these patients. This aspect of the investigation is receiving further attention.

*Practical Considerations.*—The patients were generally instructed to use their appliance at night only. Five patients preferred using the bite guard or bite plate both night and day. While many patients considered it necessary to use their appliance every night in order to

be free of symptoms, 23 patients used it only during periods of symptoms. Fifty-five patients have stopped using their bite guard. Of these, 6 became free from symptoms after two months of treatment and 20 after less than six months.

#### SUMMARY

Bite guards or bite plates were constructed for 184 patients, 41 males and 143 females (average age 39 years; range

TABLE 6 Comparison between different types of bite guards and bite plates.

| Type of appliance                                                          | Cured % | Relief of symptoms % | Symptoms unchanged % |
|----------------------------------------------------------------------------|---------|----------------------|----------------------|
| Hard acrylic (lower)<br>61 cases                                           | 85      | 13                   | 2                    |
| Hard acrylic (upper)<br>10 cases                                           | 60      | 30                   | 10                   |
| Resilient acrylic + combined hard and resilient acrylic (lower)<br>9 cases | 67      | 11                   | 22                   |
| Modified Hawley plate<br>104 cases                                         | 62      | 32                   | 6                    |



16-71 years). The effect on various temporomandibular joint, muscle and periodontal symptoms and facial pain was assessed by comparing the symptoms before and after the use of the appliance during periods from one year to three and a half years.

The number of cases observed is still too small to draw definite conclusions. It seems, however, that the hard acrylic bite guard in the lower jaw results in a slightly higher percentage of cure than the modified Hawley plate and other types of bite guards.

### RÉSUMÉ

*Les auteurs ont placé des attelles ou plaques chez 184 sujets, 41 hommes et 143 femmes (dont l'âge moyen est de 39 ans, allant de 16 à 71 ans). On a pu établir l'effet sur différents symptômes de l'articulation temporo-mandibulaire, des muscles et des affections périodentaires et des douleurs faciales, en comparant*

*les symptômes avant et après l'application de ces attelles ou plaques pendant une période allant d'un à trois ans et demi.*

*Le nombre des cas observés est encore trop faible pour qu'on puisse en tirer des conclusions définitives. Il semble cependant que l'attelle acrylique dure placée sur le maxillaire inférieur donne un pourcentage de guérison plus élevé que la plaque Hawley modifiée et d'autres types d'attelles.*

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Royal Dental School, Malmö

## Pilot study on advanced training and employment of auxiliary dental personnel in the Royal Canadian Dental Corps: final report

K. M. Baird,\* D.D.S., Ottawa; E. C. Purdy,† D.D.S., Toronto, and D. H. Protheroe,‡ D.D.S., M.P.H., Camp Borden, Ontario

This study was designed to establish whether clinical technicians (dental hy-

gienists) can be trained economically to undertake additional responsibilities and employed effectively under conditions existing in the average clinic of the Royal Canadian Dental Corps. In the process we wished to determine:

1. the additional procedures that could and would be delegated;

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2. the duration and content of the course required;

3. how the trained technician could be integrated into the dental health team;

4. the policy regarding their training and employment in the Corps.

As a natural progression of the present study it is intended to initiate a series of investigations in the autumn of 1963 which will deal with other members of the dental health team (dental assistant, laboratory technician, and clinical technician) and will consider the type and arrangement of the equipment required to support them. There is good reason to believe that a more satisfactory and a more productive system of clinical practice in the Corps will evolve from these studies and that a higher standard of dental health in the Canadian Forces will result.

The preliminary report of the present study<sup>1</sup> dealt with three of the six stages of that study and certain conclusions had already been reached. It was demonstrated that a clinical technician could be trained in a reasonable time to perform, to a high standard, certain delegated routine procedures under the direct supervision of a dental officer. Furthermore, it then proved relatively simple to evolve a system of practice into which this newly trained clinical technician could be fitted to good advantage. The first three stages of the study also indicated that certain prerequisites with regard to training and dental clinic accommodation would have to be met before these auxiliaries could be employed to their full value. The aim of the final three stages of the project was to confirm the findings of the earlier stages and to reach a satisfactory solution as objectively as possible regarding their future training and employment in the Corps. These stages were concerned with the following aspects:

Stage 4: to train more clinical technicians to perform additional procedures and to establish a standard syllabus of training;

Stage 5: to determine how best these technicians can be integrated into the dental health team and to assess their value in such employment; and

Stage 6: to evaluate the study and to reach conclusions regarding future policy.

Early in Stage 4 it became necessary to select a name for this group of advanced dental auxiliaries in order that authority for their course of training could be sought and they could be fitted into the general trade structure of the Canadian Forces at their proper level. It was decided that they would be known as "Technical Dental Therapists" to differentiate them from "Clinical Technicians," training for which they had already completed prior to selection. This would also ensure a clear line of demarcation between the responsibilities of clinical technicians (dental hygienists) and those trained and qualified for the higher trade level. Accordingly, there are three candidates who have now qualified as technical dental therapists on the formal course of 14 weeks' duration at the Royal Canadian Dental Corps School, Camp Borden, Ontario.

In order to achieve the purposes of Stage 5, it was decided to employ the three therapists in separate locations under varying conditions of practice. One remained at Camp Borden where he participated in a controlled exercise to determine his proper place in the dental health team and the value of his contribution. The other two therapists were allocated to clinics in other parts of Canada to be employed at the discretion of the Command Dental Officers concerned. Broad guide-lines were laid down, but generally it was left to the officers involved to locate these auxiliaries wherever they saw fit and to the best possible advantage. From this we hoped to learn the reaction of the patients to this mode of practice, the observations of the dental officers and how the therapist himself considered he could best adapt his training to the problems of practice. We also wanted to determine some of the implications regarding equipment and accommodation.

TABLE 1 Dental therapist course.

| Subject                                           | Periods | Total |
|---------------------------------------------------|---------|-------|
| Orientation                                       | 10      | 10    |
| Restorative dentistry                             |         |       |
| Lectures, demonstrations and laboratory exercises | 159     |       |
| Clinical practice                                 | 188     | 347   |
| Periodontics                                      |         |       |
| Lectures, demonstrations and laboratory exercises | 16      |       |
| Clinical practice                                 | 26      | 42    |
| Prosthodontics                                    |         |       |
| Lectures, demonstrations and laboratory exercises | 24      |       |
| Clinical practice                                 | 20      | 44    |
| Oral surgery                                      |         |       |
| Lectures, demonstrations and laboratory exercises | 3       |       |
| Clinical practice                                 | 4       | 7     |
| Public health dentistry                           |         |       |
| Lectures, demonstrations and laboratory exercises | 20      |       |
| Clinical practice                                 | 10      | 30    |
| Miscellaneous                                     |         |       |
| Recreation, spare periods and administration      |         | 84    |
| Integration into clinical employment              |         | 68    |
| Total                                             |         | 632   |

#### STAGE 4. FORMAL TRAINING COURSE WITH STANDARD SYLLABUS

Three candidates with a minimum of 3½ years' experience as clinical technicians were selected to attend a formal course of instruction during the fall of 1962. These candidates were considered to be representative of the personnel likely to be available for future training. A syllabus was prepared which incorporated 14 weeks of instruction but provided flexibility to accommodate changes which might be indicated as the course progressed. Stage 2 of the study had served well as a guide to ensure that adequate time was allotted to each subject to attain the required proficiency. However, some adjustment to the syllabus was necessary, following the employment studies, in order to emphasize certain subjects whose scope had not been properly assessed originally. For example, it was found that with little additional training the therapist could be employed to remove sutures and irrigate infected oral wounds. On the other hand, the time allotted to prosthodontics was found to be excessive for the simple procedures that the therapist was permitted to perform.

Accordingly, a revised 16-week syllabus has been designed and the amount of time allotted to each of the various subjects is depicted in Table 1. The additional two weeks were added in order to integrate the candidates into clinical practice with dental officers in the manner in which they will subsequently be employed. The course outlined in this study is considered of sufficient length to train experienced clinical technicians to perform the additional procedures described. It is considered neither suitable nor adequate, however, for training personnel who lack such background and experience.

STAGE 5. INTEGRATION OF THERAPIST WITH DENTAL TEAM

#### STAGE 5. INTEGRATION OF THERAPIST WITH DENTAL TEAM

The marked increase in dental productivity that was observed at R.C.A.F. Sta-

tion Uplands in Stage 3 of the study<sup>1</sup> could not be attributed entirely to employment of the therapist. Specialized dental assisting, improved patient flow and maximum use of treatment rooms also contributed to the increase and it was necessary, therefore, to evaluate the effect of these factors on productivity before an accurate determination of the therapist's contribution could be made.

Stage 5, in which two dental officers were to be employed in the dental team, was started as planned but had to be modified because of an accident involving one of the dental officers. Consequently, it was decided to employ only one dental officer in the study and to develop a dental team around him. The study was conducted in the dental clinic at R.C.A.F. Station Camp Borden. The dental officer was selected because of his keen interest in the employment of auxiliary personnel and his record of above average dental productivity. The latter attribute was considered particularly important in that any increase observed would be more meaningful if it occurred with an officer already performing with a high degree of efficiency.

Stage 5 was conducted in three parts.

*Part 1.*—The aim of part 1 was to establish a base line of dental productivity for

the dental officer with one dental assistant. This is the normal staffing ratio in the Corps. No changes were made in the existing operating facilities in the clinic. Productivity records were maintained and a work analysis carried out during 13 working days. This period of time was considered adequate since the level of productivity could be checked against the officer's previous record. At the conclusion of part 1 a training period was conducted in preparation for part 2.

*Part 2.*—The aim of part 2 was to determine the increase in productivity that would result from:

(a) the addition of a second dental assistant to the team and the assignment of specialized duties to each assistant;

(b) the equipping of a second treatment room to permit any type of dental operation in either of the two treatment rooms; and

(c) a patient flow adequate to utilize fully two dental assistants and two treatment rooms.

As in part 1 productivity records were maintained and a work analysis carried out for 29.5 duty days.

During part 2 one dental assistant served as chairside assistant to the dental officer, while the other performed the combined duties of a roving and clerical

TABLE 2 Productivity analysis, Stage 5: Comparison in time points of value of dental treatment provided during and before the study.

| Phase                                                                                            | Time points per duty day* |
|--------------------------------------------------------------------------------------------------|---------------------------|
| Part 3 (1 dental officer, 1 therapist, 1 chairside, 1 roving assistant and 1 clerical assistant) | 219.4                     |
| Part 2 (1 dental officer, 1 chairside, 1 roving/clerical assistant)                              | 151.4                     |
| Part 1 (1 dental officer, 1 dental assistant)                                                    | 110.2                     |
| Prior to study† (1 dental officer, 1 dental assistant)                                           |                           |
| January — September 1962                                                                         | 108.1                     |
| April 1961 — March 1962                                                                          | 107.2                     |

\*Time points are weighted values based on the average times required to complete the various dental operations and are used by the Royal Canadian Dental Corps to assess dental officer productivity.

†The productivity figures prior to the study are given to show that the results of part 1 conform generally to the normal productivity of this officer.



assistant. This employment provided the dental officer with the services of 1½ dental assistants, the same as would occur in part 3 when the therapist and a full-time clerical assistant were added and the roving assistant would be at the part-time disposal of the therapist. After the conclusion of part 2 a further training period was undertaken in preparation for part 3.

*Part 3.*—The aim of part 3 was to determine the increase in dental productivity which would result when a technical dental therapist is added to the dental team. Productivity records and work analyses were carried out as in parts 1 and 2 for the 26 duty days part 3 was in progress.

Three treatment rooms were utilized by the team, two of which were equipped for any type of dental treatment; the third contained equipment necessary for the therapist. The team consisted of a dental officer, a therapist, a chairside assistant, a roving assistant and a clerical assistant. The chairside assistant worked solely with the dental officer, the roving assistant performed the roving duties previously described and provided chairside assistance as required by the therapist. The clerical assistant's duties were concerned solely with the clinic orderly room or office.

The procedure followed for employing the therapist was the same as that used at R.C.A.F. Station Uplands with a similar daily schedule of integrated practice.<sup>1</sup>

#### *Findings—Stage 5*

The findings of Stage 5 of the study are presented in Tables 2-6 and may be summarized as follows:

*Productivity.* — Dental productivity increased from 110.2 time points per duty day in part 1, when the dental officer worked with a single assistant, to 219.4 when the full dental team was functioning, an increase of 99.1 per cent. Of this increase, 37.4 per cent can be attributed to the employment of the team minus the

therapist (part 1 to part 2). The remaining 61.7 per cent increase resulted from employment of the technical dental therapist (Table 2). While the addition of the therapist increased productivity by 61.7 per cent, it increased the cost of the team by only 33.9 per cent insofar as salaries were concerned.

*Equivalent Dental Officer Hours Performed by the Therapist.* — The services performed by the therapist during the 26 duty days of part 3 would take a dental officer 126.2 hours to perform. In other words, the therapist performed the equivalent of 4.9 dental officer hours per duty day (Table 4). The team, therefore, achieved the equivalent of 12.4 dental officer hours in a 7.5 hour day, an increase of 65.3 per cent. A comparable increase of 61.5 per cent was obtained during the study at R.C.A.F. Station Uplands.

*Dental Officer's Work Analysis.* — The findings of the dental officer work analysis shown in Table 5 are of particular interest. Although both the exercises employing a full dental team indicate that productivity is almost doubled over that of a dental officer and one assistant, the operating time of the dental officer in this instance was only 58.4 per cent of his total time as compared with 75.0 per cent for the dental officers at R.C.A.F. Station Uplands. This difference may be accounted for, at least in part, by the fact that the study director purposely exercised less control over patient flow at R.C.A.F. Station Camp Borden than at Uplands. The dental officer was also required to devote considerable time to supervision of the various steps of each procedure carried out by the therapist. This supervision was reduced or eliminated to some extent as the team gained experience working together and as the therapist became more proficient at his work. In the beginning, however, it was necessary to check each step to ensure that such things as adaptation of the matrix, insertion and condensation of the

TABLE 3 Productivity analysis, Stage 5: Percentage increases in productivity recorded during the study.

|                                                                                                       |       |
|-------------------------------------------------------------------------------------------------------|-------|
| Per cent increase part 1 to part 3 (Attributable to employment of whole team)                         | 99.1% |
| Percentage increase part 1 to part 2 (Attributable to extra assistants and auxiliary treatment rooms) | 37.4% |
| Per cent increase due to therapist                                                                    | 61.7% |

TABLE 4 Equivalent dental officer hours\* represented by the therapist's participation.

| Activity           | Number | Equivalent dental officer time per operation in minutes | Equivalent dental officer hours |
|--------------------|--------|---------------------------------------------------------|---------------------------------|
| Prophylaxis        | 104    | 30 minutes                                              | 52 hours                        |
| Radiographs        | 29     | 3                                                       | 1.5                             |
| Multiple amalgams  | 163    | 15                                                      | 40.8                            |
| Single amalgams    | 74     | 10                                                      | 12.3                            |
| Synthetic fillings | 93     | 12                                                      | 18.6                            |
| Impressions        | 6      | 10                                                      | 1.0                             |
| Total              |        |                                                         | 126.2                           |

\*Equivalent dental officer hours per duty day =  $\frac{126.2}{26} = 4.9$  hours.

TABLE 5 Dental officer work analysis.

| Activity                                               | Stage 5 |        |        |
|--------------------------------------------------------|---------|--------|--------|
|                                                        | Part 1  | Part 2 | Part 3 |
| Per cent of total time operating                       | 64.5%   | 79.5%  | 58.4%  |
| Per cent of total time non-productive*                 | 35.5    | 20.5   | 41.6   |
| Per cent of total time idle                            | 15.3    | 5.7    | 17.3   |
| Per cent of operating time in auxiliary treatment room | —       | 20.1   | 36.0   |
| Per cent operating time                                |         |        |        |
| Operative dentistry                                    | 48.3    | 50.5   | 57.3   |
| Prosthodontics                                         | 6.9     | 10.8   | 12.8   |
| Oral surgery                                           | 6.4     | 7.8    | 7.3    |
| Periodontal treatment                                  | 9.5     | 5.5    | 3.6    |
| Total observations                                     | 913     | 1,917  | 1,695  |

\*Non-productive time includes such things as supervising the therapist, waiting for anaesthetic, seating or excusing patients, idle time, signing charts, coffee break, telephone, administrative tasks, etc.

filling material, carving and finishing of the restoration, and bite-wing radiographs for the final assessment were all com-

pleted to the dental officer's satisfaction and to the required standard. Another important finding in the dental officer's

work analysis was the steady increase in the proportion of operating time spent on operative dentistry and in the use of the auxiliary treatment room, from part 1 through part 3.

*Therapist's Work Analysis.* — The results of the work analysis conducted on the therapist at R.C.A.F. Station Camp Borden (Stage 5) and those obtained in R.C.A.F. Uplands are compared at Table 6. The percentage of total operating time was similar at both locations, 75.9 per cent at Camp Borden compared to 75.5 per cent at Uplands. However, differences were noted in the proportions of time spent on various procedures. The operating time spent on prophylaxis increased from 28.5 per cent at Uplands to 40.8 per cent at Camp Borden and operative dentistry decreased from 67.0 per cent at Uplands to 53.8 per cent at Camp Borden. It is considered that this change was also due to the reduced control of patient flow at Camp Borden previously described. It is interesting to note, however, that the proportion of time spent on operative dentistry decreased but the number of restorations per duty day com-

pleted by the therapist increased from 11.6 to 12.7 per duty day.

The final stages of Stage 5 involved the two therapists who were employed in other locations in Canada and the findings corroborated those at Camp Borden insofar as increased productivity was concerned. Although it was not possible to produce the same volume of statistics, both clinics reported a significant increase in all restorative phases of treatment. One dental officer noted that the waiting period for appointments was reduced from 6-8 weeks to 2-3 weeks. All agreed that the scope of training was adequate but one officer observed that the therapist was employed primarily in restorative dentistry. There was a general feeling, however, that over a protracted period the continuous production of preparations by the dental officer and the placing of restorations by the therapist would soon become tiresome if not varied with other forms of treatment. However, the officers were confident that this problem would be overcome after adjustments were made in the routine of the clinic to allow for individual preferences and methods. Under some circumstances it

TABLE 6 Technical dental therapist work analysis. Comparison of results obtained in Stage 5 with those obtained in Stage 3 of the study.

| Activity                              | Stage 3<br>Uplands | Stage 5<br>Camp Borden |
|---------------------------------------|--------------------|------------------------|
| Per cent of total time operating      | 75.5%              | 75.9%                  |
| Per cent of total time non-productive | 24.5               | 24.1                   |
| Per cent of total time idle           | 18.5               | 7.6                    |
| Per cent of operating time spent on:  |                    |                        |
| Prophylaxis                           | 28.5               | 40.8                   |
| Radiology                             | 2.8                | 0.3                    |
| Operative dentistry                   | 67.0               | 53.8                   |
| Amalgam                               | 62.4               | 44.7                   |
| Silicate                              | 4.7                | 9.1                    |
| Rubber dam                            | 13.6               | 6.5                    |
| Matrix bands                          | 10.9               | 9.8                    |
| Packing amalgam or silicate           | 18.3               | 8.2                    |
| Carving and finishing                 | 23.8               | 16.6                   |
| Prosthodontics                        | 1.1                | 1.3                    |
| Total observations                    | 702                | 1702                   |

was found more efficient to have the dental officer and therapist interchange between operating rooms leaving the patient stationary, while in other instances it proved more practical to have the patient move. There was general agreement, however, by the dental officers, the therapists and the patients alike that this was a most effective system of providing treatment. These two therapists will continue to be employed at the discretion of the Commanding Officer, and it is expected that further observations will be forthcoming regarding their training, duties and responsibilities.

#### STAGE 6. EVALUATION AND FUTURE POLICY

It has required a period of three years to complete the study but there is no question that the aims have been achieved. It was a comparatively simple task, at the termination of the study, to decide on the policy that would best suit the objectives of the Royal Canadian Dental Corps but, of course, there may be some difficulty in having the required positions established in the proper rank and at the proper trade level. There is no doubt that the type of auxiliary described in this report can be trained to a high standard in a reasonable time and can make a contribution of great value to the dental health team. The training required for our purposes and the method of employment are now fairly well established. Estimates as to optimal numbers and locations, however, can be made only after further experience and study.

In addition to the achievement of the principal aims of the study, numerous other findings became evident. These should prove of value in other projects. Most of these findings have already been described in the preliminary report.<sup>1</sup> The two that arose most frequently for comment and concern are (1) arrangement and lay-out of the accommodation and equipment, and (2) the value of the dental assistants who acted on roving and clerical assignments. It appears fairly ob-

vious that auxiliaries of any type can carry out their functions in an efficient way only if they form part of a team, the size and composition of which is governed by the size and scope of the clinic involved. Dental officers, therapists and clinical technicians must be backed up by the proper number of assistants if they are to make the contribution of which they are capable.

The Royal Canadian Dental Corps since the Second World War has operated with a continual shortage of dental officers in spite of all efforts to improve the situation. The effect of some of these actions will not be felt for several years and it is expected that the shortage will continue into the foreseeable future. In an attempt to compensate for this shortage and to help reduce the further accumulation of deferred treatment, several approaches have been examined and certain measures instituted. These measures have been outlined<sup>2</sup> and they all have contributed, in varying degrees, to resolving the problem. The approach, however, which promises to provide the most immediate, the most effective and the most lasting results for dental service in the Canadian Forces is the broader training and employment of auxiliary personnel. If this promise is fulfilled it may well be that the most satisfactory way of compensating for the dental officer shortage is to convert vacant dental officer positions to auxiliary positions for which fully trained personnel can be produced in a phased program. This may also prove more practical than competing with the civilian demand for dentists through the expensive R.C.D.C. dental student subsidization plan when a high standard of dental care can be sustained through the training of auxiliaries. The dental officer will then come closer to assuming his rightful position as the leader of a well motivated and controlled dental health team in which each member assumes responsibilities commensurate with his training and skills.

The Canadian Forces are perhaps more fortunate than their civilian counterparts in that they maintain, through the Cana-



dian Army and the Royal Canadian Dental Corps, institutions designed and equipped to train and qualify all categories of dental auxiliary personnel. These include dental and clerical assistants, laboratory and clinical technicians, technical dental therapists, and dental storemen and equipment technicians. Their rank structure ranges up to and including commissioned officer status and it is anticipated that their trade structure, now under review, will before long cover all levels. They are all trained, qualified and administered through the one source and the problem of control does not exist. It is accepted as a guiding principle that such personnel, properly trained and motivated towards the profession they serve, will be quite content to restrict themselves to the field of responsibility that has been delegated to them. However, in this regard it is also accepted that the opportunity must be available for each to attain his full potential and the worth of his services must be recognized. The greatest danger lies in demanding prerequisites and standards of qualification which are too high for the duties auxiliaries are permitted to perform and the rank they are entitled to hold.

One of the most informative reviews of the position of auxiliaries in the profession is contained in a paper by Hadlow.<sup>3</sup> The conclusions drawn by him approximate closely the concept now accepted by the Royal Canadian Dental Corps as a result of our preliminary studies. Hadlow states, "The proper use of auxiliaries could have a profound effect on the availability of dental services and one feels that controlled they would increase the stature of the fully qualified practitioner as the public, through more and more dental health programs and wider public education with radio and TV, come to realize more fully the higher biological and scientific aspects of dentistry — aspects unrelated to the technical procedures auxiliaries could well undertake."

The ultimate development and evolution of the dental health team is a long-term program and one which, of necessity, must

be gradual and thorough. There are many implications which must be considered and explored before the final doctrine can be formulated. At the present stage of development, however, it is obvious that the time has arrived when certain decisions can be taken without fear of being considered hasty.

## CONCLUSIONS

1. Dental health teams permit economy in the employment of trained dental personnel and maintenance of the highest standard of dental care for the Canadian Forces.
2. Dental therapists are essential members of any military dental health team. The composition of this team and the training of its members should be governed by the local requirements and circumstances. Flexibility must be provided in order to accommodate individual preferences and methods.
3. Further studies are necessary as a background for other problems which arise in connection with the team and especially so in the field of equipment and accommodation planning.
4. Additional therapists will be trained and employed in order that their integration into R.C.D.C. clinics of various categories can be observed and evaluated.

## SUMMARY

The pilot study dealing with the advanced training and employment of auxiliary dental personnel has been carried to completion and the final report is presented. The findings of the last three stages of the study corroborate those of the earlier stages and permit certain decisions regarding future policy in the Royal Canadian Dental Corps.

A syllabus of training for the technical dental therapist, by which name the clinical technician with additional training is now known in the Corps, has been estab-

lished and any doubts which previously existed concerning the value of such personnel have now been removed. The contribution that the therapist can make as a part of the dental health team has been proven and the increased productivity resulting from this concept of dental care has been calculated. In this system of practice the dental officer will come closer to assuming his rightful position as the leader of a well motivated and controlled team in which each member assumes responsibilities commensurate with his training and skills.

Further studies will be undertaken dealing with the dental health team, particularly in those aspects involving equipment and accommodation planning. It is also intended to train a limited number of additional therapists in order that their practical employment in R.C.D.C. clinics can be observed. There is good reason to believe that from these studies a more efficient system of clinical practice in the Corps will evolve along with a higher standard of dental health in the Canadian Forces.

### RÉSUMÉ

*L'étude expérimentale portant sur la formation plus poussée et l'emploi du personnel dentaire auxiliaire vient de se terminer et en voici un compte rendu définitif. Les conclusions auxquelles nous sommes arrivés au cours des trois dernières phases de cette étude corroborent celles des phases antérieures et nous permettent de prendre certaines décisions ayant trait à la future ligne de conduite du Corps dentaire.*

*S'il existait des doutes quant à la valeur de ce personnel, ces doutes sont mainte-*

*nant disparus. Nous avons établi un programme d'instruction à l'intention des thérapeutes techniciens dentaires, nom sous lequel on désigne maintenant les techniciens cliniques expérimentés du Corps dentaire. Les services que le thérapeute peut rendre en sa qualité de membre de l'équipe d'hygiène dentaire sont désormais un fait établi et nous avons déterminé le rendement accru qui résulte de ce mode d'organisation des soins dentaires. On estime que, grâce à cette méthode pratique, l'officier dentiste sera mieux en mesure d'assumer son véritable rôle à la tête d'une équipe enthousiaste et bien dirigée, équipe au sein de laquelle chacun des membres qui la composent assume les responsabilités conformes à sa formation et à sa compétence.*

*Nous nous proposons d'entreprendre d'autres études se rapportant à l'équipe d'hygiène dentaire, surtout en ce qui concerne le matériel et les locaux. Nous avons également l'intention de former, en nombre limité, d'autres thérapeutes afin de pouvoir observer leur emploi pratique dans les cliniques du Corps dentaire. Il y a tout lieu de croire que, grâce à ces études, le Corps dentaire sera en mesure d'instaurer une méthode plus efficace de pratique clinique et d'assurer en même temps un niveau plus élevé d'hygiène dentaire dans les forces armées du Canada.*

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Department of National Defence

*Code of Ethics Revised* • Copies of the most recent issue of the Code of Ethics of the Canadian Dental Association were recently mailed to every Association member. This latest version incorporates revisions approved at the annual meeting of the Board of Governors in 1963. All members are asked to study their copy of the Code. Comments, observations or suggestions for improvement are welcome and should be sent to J. P. McGuigan, chairman, Council on Ethics, 276 Robie Street, Halifax, Nova Scotia.

## Epignathoid teratoma

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Teratomata, usually referred to as "monster tumours," are defined as tumours containing disorderly arrangements of tissues and organs, as a result of faulty embryonic differentiation and organization produced through abnormal inductive influences.

The teratoma is a true neoplasm. It should be differentiated from those commonly occurring non-neoplastic lesions representing misplaced accumulations of different types of tissue, such as teeth, dermal glands, hair, skin, bone, cartilage and muscle. Thoma<sup>1</sup> suggests that when developmental cysts or dermoids contain tissues derived from all three germ layers, they are known as teratomas.

These tumours are often present at birth, and they occur in a number of locations including the anterior medias-tinum, the ovaries, testes, coccyx, head, neck and abdomen.<sup>2</sup>

A few cases of teratomata of the head and neck regions have been reported in the dental literature.<sup>3-7</sup> Most of these have involved the mandible. This case report is one in which the maxilla was involved. The designation of the mass as an epignathoid teratoma was thought to be appropriate.

### CASE REPORT

*History.*—J. C., a male infant, was admitted on the day of his birth (June 5, 1953) to the John A. Andrew Memorial Hospital, Tuskegee, because of a high fever and cough. There was a large trilobed mass attached to the anterior maxilla (Figures 1-2). This growth was present at birth and measured approximately 13.1 cm. mesiodistally, and 7.4 cm. from apex to base.

*Physical Examination.*—The infant was a well-formed Negro male, apparently normal in all respects, except for the tumour which protruded from the anterior maxilla. Palpation of the mass showed that all three lobes were soft and resilient. The hilus, however, was indurated and suggested some degree of calcification. There was some depression and a resultant posterior displacement of the mandible by the tumour which prevented the child from closing the mouth. There was, in addition, a partial cleft of the palate. The throat was red and appeared to be infected. There were harsh breath sounds over the chest.

This report appeared as part of a motion picture, "Oral Surgical Procedures" prepared by the senior author, sponsored by the John A. Andrew Clinical Society, and first presented at the 7th annual meeting of the Alaska Dental Society, Fairbanks, Alaska, August 15-18, 1956.

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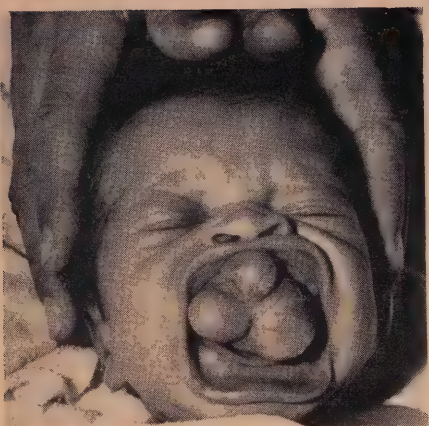


FIGURE 1 Infant with mouth open showing clinical appearance of distinct right, left and central lobes of teratoma and fixation of growth to the anterior maxilla.

*Laboratory Findings.*—Preoperative laboratory findings were as follows: red blood



FIGURE 3 Anteroposterior radiograph of infant's head.



FIGURE 2 Lateral view of mass.

corpuscles 4,400,000 per cubic mm.; haemoglobin 13.75 Gm. per cent; white blood corpuscles 12,600 per cubic mm. The Hinton test and urinalysis were negative.

*Radiographic Findings.*—From antero-posterior and lateral films of the face (Figures 3 and 4), it appeared that there was a tumour extending anteriorly, apparently from the superior alveolar margin, which contained articulated bony structures. No other gross pathological changes were seen.



FIGURE 4 Lateral radiograph of mass.





FIGURE 5 Excised mass and radiograph showing radio-paque cartilaginous elements.

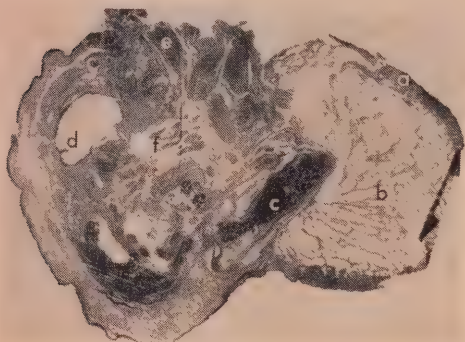


FIGURE 6 Photomicrograph of teratoma. (a) Epithelium; (b) adipose connective tissue; (c) cartilage; (d) gland; (e) muscle; (f) cartilage.

*Clinical Course.* — Following the medical treatment and improvement of the pulmonary infection in the infant, it was decided to remove the mass. On June 25, 1953, the endotracheal administration of ether anaesthetic was accomplished, the attachments and extensions of the tumour located, and the teratoma was excised. The palatal cleft remaining after removal of the tumour extended from the premaxilla to the pharynx, and from five millimetres mesial to the alveolar crest on one side to the other. The surgeons had decided that the palatal cleft would be treated at a later period.

*Pathology Report.*—The excised tumour (Figure 5) was sent to the pathological laboratory for sectioning. The pathologist reported that the periphery of the mass of tissue was covered by stratified squamous epithelium. The neoplasm contained ectodermal and mesodermal elements arranged haphazardly, adipose

connective tissue, cartilage, bone, haemopoietic marrow, skeletal muscle, mucous glands, renal glomeruli and tubules (Figure 6). There was no evidence of malignancy.

*Diagnosis.*—A diagnosis was made of a non-malignant and non-invasive congenital teratoma of the anterior maxilla.

#### COMMENT

It is of interest to note that despite the location of this teratoma in the oral region, it did not contain any teeth as is frequently the case. In a rare case presenting at the clinic of the School of Dentistry, Meharry Medical College in 1945 and reported later by Seeman,<sup>8</sup> the location of the teratoma was different in that it was attached to the buttock. There were twelve teeth present in this mass.

Even though there was some interference with nutritional intake, feeding did not constitute a major problem. Nevertheless, from every conceivable standpoint, medical opinion dictated early removal of the mass. Following its excision, there was an obvious degree of closure and the child was able subsequently to use a feeding bottle to advantage.

This patient was seen two years postoperatively and there was a full complement of well formed deciduous teeth

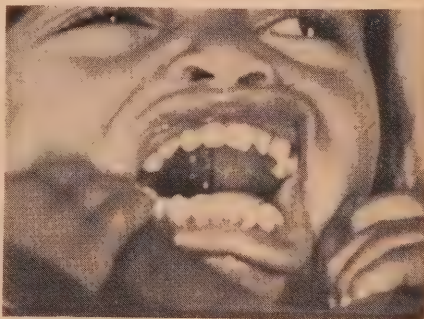


FIGURE 7 Photograph two years postoperatively showing development of primary dentition and remaining palatal cleft.

(Figure 7). There remained the tendency to keep the lips apart. The palatal cleft was still evident and it was suggested once again to the parents that a second surgical operation should be accomplished to care for this defect.

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review article

## Clinical approach to diagnosis of oral lesions

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A prerequisite to diagnosis must include a thorough case history and clinical examination to discover the subjective and the objective symptoms that have a bearing upon the problem at hand. Also, an adequate radiographic examination when necessary must be secured and any other aid to diagnosis that can be helpful should be used.

There are about 130 to 140 lesions of the oral cavity which concern the dentist and we should be in a position to recognize, diagnose and treat, or refer them for treatment.

These can be divided into twelve classifications, using clinical appearance as a

basis for this classification (Table 1). They are:

1. White lesions of the oral mucosa — there are 13 such lesions.
2. Vesicular lesions of the oral mucosa — there are about seven of these.
3. Ulceration of the oral mucosa—there are about 24 of these; but here we repeat all of the vesicular lesions because many of the ulcerative lesions go through a vesicular stage before they become ulcerative.
4. Pigmented lesions of the oral mucosa —there are ten such lesions.
5. Firm nonhaemorrhagic growths of the soft oral tissue—there are about ten of these.
6. Haemorrhagic or easily bleeding soft tissue growths of the oral cavity—there are ten of these.

Presented at the Annual Meeting of the Canadian Dental Association, Toronto, May 21, 1963.  
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7. Submerged or partially submerged compressible lesions of the oral mucosa—there are about seven of these.

8. Papillary or cauliflower-like lesions of the soft oral tissues—there are six of these.

9. Radiolucent lesions of the jaws—there are about 28 of these, but many are easily eliminated by the case history.

10. Radiopaque lesions of the jaws — there are 15 of these.

11. Radiopaque and radiolucent lesions of the jaws—there are about nine of these.

12. Swellings of the salivary glands — there are 11 such lesions.

Classification of lesions follows in tabular form.

The list of lesions in Table 1 appears to be greater than is actually the case. For example, the vesicular lesions are repeated under the ulcerative lesions because all of the vesicular lesions progress into an ulcerative stage.

Similarly, there is an overlap in the radiolucent and radiopaque lesions because many of these lesions exhibit both characteristics.

Some of these lesions can be roughly further differentiated by the sex of the patient, the age of the patient, and the usual site of occurrence.

Most of the lesions occur with the same frequency in either sex, with the notable exceptions of those listed in Table 2.

The age of the patient is also important for the initial screening because certain conditions occur so frequently at certain ages that this characteristic is almost pathognomonic (Table 3).

There are also certain lesions which are confined to definite areas. Thus location becomes an aid to diagnosis (Table 4).

We can often obtain a clue to the condition or eliminate some of the possibilities by considering the sex and age of the patient, and the site of occurrence of the lesion.

This method of clinical diagnosis is very useful even though the system does have some pitfalls. The final diagnosis must often await the pathologist's report, but

many tentative diagnoses can be made by this method.

Some representative lesions of each group which are quite frequently encountered are described in this paper.

## WHITE LESIONS

*White Spongy Naevus.*—This is present from childhood and is an hereditary disease. The lesion occurs in either sex on the buccal mucosa, or anywhere on the oral mucosa in members of the same family. The condition is asymptomatic, the mucosa appears parboiled and has an almost iridescent appearance. Treatment is unnecessary for this lesion. Histologically, there is a thickening of the epithelial covering, and the superficial layers of the cells are swollen and fail to stain.

*Pachyderma Oris.*—This hyperkeratosis occurs anywhere on the oral mucosa, especially on the lips and buccal mucosa. It occurs in the adult and more frequently in the male. The lesions may be associated with a cause, such as lip or cheek biting, or the cause may be obscure. If a cause is determined, the lesion usually disappears once the cause is removed.

A number of similar white lesions occurring in the oral cavity affect the oral mucosa. These are due to the same process, namely that of hyperkeratosis. The degree of keratinosis is not as important as the histological picture. Pachyderma oris is the most benign of these lesions. The others in order of severity to the patient are lichen planus, leucoplakia, nicotinic stomatitis, carcinoma in situ and carcinoma. These are all lesions that frequently give the same clinical appearance and the final diagnosis must await the pathologist's report.

Pachyderma oris is characterized microscopically by a thickened layer of keratin (hyperkeratosis) or parakeratosis. There may be a thickening of epithelial ridges and the stratum malpighii (acanthosis) and elongation of the ridges. The individual epithelial cells are all normal.

TABLE 1 Classification of oral lesions.

| White lesions                       | Vesicular lesions                        | Ulcerations                     | Pigmented lesions              | Firm nonhaemorrhagic growths           | Haemorrhagic growths                                               |
|-------------------------------------|------------------------------------------|---------------------------------|--------------------------------|----------------------------------------|--------------------------------------------------------------------|
| Pachyderma oris                     | Primary herpetic gingivostomatitis       | All of the vesicular lesions    | Amalgam tattoo                 | Irritation fibroma                     | Pyogenic granuloma                                                 |
| White spongy naevus                 | Secondary herpetic gingivostomatitis     | Traumatic ulcer                 | Black hairy tongue             | Fibroma with calcification             | Pregnancy tumour                                                   |
| Leucoplakia (Verrucous leucoplakia) | Pertadentitis mucosa necrotica recurrens | Infectious mononucleosis        | Addison's disease              | Fibromatosis                           | Peripheral giant-cell reparative granuloma                         |
| Carcinoma in situ                   | Erythema multiforme                      | Erosive lichen planus           | Jegher's syndrome              | Lipoma                                 | Epulis fissuratum                                                  |
| Carcinoma                           | Pemphigus vulgaris                       | Desquamative gingivitis         | Pigmentation with heavy metals | Myxoma                                 | Eosinophilic granuloma                                             |
| Nicotinic stomatitis                | Smallpox and Chickenpox                  | Vincent's stomatitis            | Ephelis                        | Neurofibroma and schwannoma            | Parulis (gum boil)                                                 |
| Lichen planus                       | Herpangina                               | Chancres (Syphilis)             | Lentigo                        | Granular cell myoblastoma              | Squamous cell carcinoma                                            |
| Moniliasis (Thrush)                 | Stomatitis medicamentosa and venenata    | Mucous patches (Syphilis)       | Malignant melanoma             | Salivary gland tumour                  | Transitional cell carcinoma                                        |
| White hairy tongue                  | Herpes zoster                            | Tuberculosis                    | Normal pigmentation            | Sialadenitis                           | Leukemias and lymphomas (reticulum cell sarcoma and lymphosarcoma) |
| Fordyce spots                       |                                          | Histoplasmosis                  |                                | Tori (exostosis or peripheral osteoma) | Soft tissue plasmacytoma                                           |
| Chemical burns                      |                                          | Moniliasis                      |                                |                                        |                                                                    |
| Geographic tongue                   |                                          | Riga-Fede's disease             |                                |                                        |                                                                    |
| Epstein's pearls                    |                                          | Perigoid ulcer (Bednar aphthae) |                                |                                        |                                                                    |
|                                     |                                          | Squamous cell carcinoma         |                                |                                        |                                                                    |
|                                     |                                          | Lymphomas and leukaemias        |                                |                                        |                                                                    |



TABLE 1 Classification of oral lesions (cont'd).

| Compressible lesions                      | Papillary lesions                                             | Radiolucent lesions                |                                                      | Radiopaque lesions                                      | Radiopaque and radiolucent lesions                                | Swellings of salivary glands         |
|-------------------------------------------|---------------------------------------------------------------|------------------------------------|------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|
| Mucocoele<br>Ranula                       | Papilloma<br>Verrucous leucoplakia                            | Dental granuloma<br>Radicular cyst | Ameloblastic fibroma (early stage)                   | Condensing osteitis<br>Cementoma (late stage)           | Osteitis<br>Ameloblastic odontoma                                 | Fatty infiltration<br>Hypertrophy    |
| Dermoid cyst                              | Verruca vulgaris                                              | Residual cyst                      | Adenameloblastoma                                    | Compound odontoma                                       | Adenameloblastoma                                                 | Mumps                                |
| Gingival cyst                             | Verrucous carcinoma                                           | Lateral periodontal cyst           | Melanameloblastoma                                   | Complex odontoma                                        | Cementoma                                                         | Sialadenitis                         |
| Cavernous and some capillary haemangiomas | Pseudoepitheliomatous hyperplasia (keratoacanthoma)           | Dentoalveolar cyst                 | Ameloblastoma                                        | Ameloblastic odontoma                                   | Ossifying fibroma                                                 | Mikulicz's disease                   |
| Lymphangiomas<br>Cystic hygroma           | Inflammatory papillary hyperplasia                            | Osteomyelitis<br>Primordial cyst   | Ossifying fibroma<br>Giant-cell reparative granuloma | Osteoma<br>Osteogenic sarcoma                           | Chondrosarcoma<br>Metastases of the breast and prostate carcinoma | Mucocoele<br>Ranula                  |
|                                           | Dentigerous cyst<br>Multilocular cyst<br>Median palatine cyst |                                    | Cherubism<br>Myxoma<br>Fibrosarcoma                  | Chondrosarcoma<br>Metastatic lesions<br>Paget's disease | Paget's disease<br>Cystic odontoma                                | Sarcoidosis<br>Cat-scratch disease   |
|                                           | Median alveolar cyst                                          |                                    | Metastatic tumours                                   | Leontiasis ossea                                        |                                                                   | Benign salivary gland tumours        |
|                                           | Incisive canal cyst                                           |                                    | Hyperparathyroidism (brown node or giant-cell)       | Garre's osteomyelitis                                   |                                                                   | Malignant tumours of salivary glands |
|                                           | Globulomaxillary cyst                                         |                                    | Multiple myeloma                                     | Osteopetrosis                                           |                                                                   |                                      |
|                                           | Gingival cyst                                                 |                                    | Eosinophilic granuloma                               | Caffey's disease                                        |                                                                   |                                      |
|                                           | Traumatic cyst                                                |                                    | Hand-Schüller-Christian disease                      | Foot fragments and foreign bodies                       |                                                                   |                                      |
|                                           | Aneurysmal bone cyst                                          |                                    | Fibrous dysplasia                                    |                                                         |                                                                   |                                      |
|                                           | Odontogenic fibroma and odontogenic myxoma                    |                                    |                                                      |                                                         |                                                                   |                                      |

The prognosis is excellent if the cause is eliminated.

*Lichen Planus.*—This lesion occurs in adulthood in either sex, usually on the cheek, but may occur on the lip or tongue. The lesions appear as white or greyish white lacy lesions or patches, and the lacyness is characteristic even in the ulcerative form of this lesion (so-called Wickham's lines). There may also be scaly pruritic papules on the skin of the flexor surface of the wrists and lower limbs or elsewhere on the body. The oral lesions may precede the skin lesions.

Although the cause is unknown, there is usually a history of emotional upset or strain. Microscopically, there is a thickening of the keratin layer ('sawtooth' ridges in the epithelium, oedema of basal layer, and infiltration in the subepithelial connective tissue consisting almost exclusively of lymphocytes. This lesion requires only symptomatic treatment and may disappear spontaneously.

*Nicotinic Stomatitis.*—This condition occurs usually in adults in both sexes, the palate being the exclusive site. There are a number of umbilicated papules, first on a red background, but later becoming whitish with the typical hyperkeratotic appearance.

Microscopically the lesions show hyperkeratosis and parakeratosis but no dyskeratosis.

Treatment consists of removal of the cause.

*Leucoplakia.*—This condition occurs in the adult, more frequently in the male than in the female. The lesion occurs anywhere on the oral mucosa, but more frequently on the lips, tongue, cheek and floor of mouth. It appears as a hyperkeratotic white lesion which may be flat or elevated, rough or smooth, and may be of any size. Sometimes it is papillary in form and is then called verrucous leucoplakia.

The microscopic picture is similar to that of other hyperkeratotic lesions except that, in addition to parakeratosis and

acanthosis, dyskeratosis is also present. Dyskeratosis implies the presence of hyperchromatic nuclei, abnormal mitoses, abnormal arrangement of different cell layers (loss of polarity) keratinization of individual cells, etc.

Leucoplakia is premalignant. It is estimated that 25 per cent of leucoplakias become malignant.

Treatment consists of excision.

*Carcinoma In Situ.*—This lesion resembles leucoplakia except that dyskeratosis is very marked and involves almost all the epithelial strata.

Lesions of the floor of the mouth and tongue are most aggressive.

*Squamous Cell Carcinoma.*—Three to five per cent of cases of squamous cell carcinoma appear as white lesions. It occurs more frequently in males, and is more common on the lips than intraorally. When present intraorally it occurs on the tongue, floor of the mouth, alveolar mucosa, palate and cheek.

The cells show all the evidences of dyskeratosis. In addition to dyskeratosis there is invasion of the underlying tissues. According to Broder's classification the more closely a tumour resembles the tissue from which it is derived the less malignant it is. Thus Grade I tumours have 75 per cent of the cells normally differentiated; Grade II tumours have 50-75 per cent of the cells normally differentiated; Grade III tumours have 25-50 per cent of the cells normally differentiated; and Grade IV tumours only have up to 25 per cent of the cells normally differentiated.

The treatment of choice is surgery.

#### VESICULAR LESIONS

*Primary Herpetic Gingivostomatitis.*—This occurs in either sex and may cover the entire oral mucosa. It usually occurs between the ages of one and three, but may occur later. A viral infection, it resembles other viral infections occurring in the oral cavity, commencing with a vesi-

TABLE 2 Oral lesions classified by sex predilection.

| Lesions occurring more frequently in males | Lesions occurring more frequently in females |
|--------------------------------------------|----------------------------------------------|
| Pachyderma oris                            | Geographic tongue                            |
| Leucoplakia and varrucous leucoplakia      | Desquamative gingivitis                      |
| Carcinoma and carcinoma in situ            | Tori                                         |
| Nicotinic stomatitis                       | Pregnancy tumour                             |
| White hairy tongue                         | Cementoma                                    |
| Herpes zoster                              | Giant-cell reparative granuloma (central)    |
| Malignant melanoma                         | Hyperparathyroidism                          |
| Sialadenitis                               | Fibrous dysplasia                            |
| Peripheral giant-cell reparative granuloma |                                              |
| Eosinophilic granuloma                     |                                              |
| Squamous cell carcinoma                    |                                              |
| Transitional cell carcinoma                |                                              |
| Ameloblastoma                              |                                              |
| Multiple myeloma                           |                                              |
| Hand - Schüller - Christian disease        |                                              |
| Paget's disease                            |                                              |
| Mikulicz's disease                         |                                              |
| Sarcoidosis                                |                                              |

cular stage and proceeding to an ulcerative state. This can be an extremely painful and debilitating experience for children and, indeed, for adults.

The disease is accompanied by pain,

sore mouth, headache, irritability, drooling, anorexia (because of pain in eating), enlargement of the cervical lymph nodes, and fever.

Primary herpetic gingivostomatitis, sec-

TABLE 3 Oral lesions classified by age predilection.

| Lesion                                  | Age                        |
|-----------------------------------------|----------------------------|
| White spongy naevus                     | present from childhood     |
| Moniliasis                              | two extremes of life       |
| Epstein's pearls                        | newborn infant             |
| Primary herpetic gingivostomatitis      | one to three years usually |
| Erythema multiforme                     | young adult                |
| Pemphigus vulgaris                      | 40 to 70 years             |
| Smallpox, Chickenpox                    | childhood                  |
| Herpangina                              | childhood                  |
| Infectious mononucleosis                | young childhood            |
| Riga-Fede's disease                     | infants                    |
| Pterygoid ulcer                         | newborn infants            |
| Jegher's syndrome                       | infancy or later           |
| Aneurysmal bone cyst                    | under 20 years             |
| Odontogenic fibroma                     | under 30 years             |
| Ameloblastic fibroma                    | under 30 years             |
| Cementoma                               | over 30 years              |
| Adenoameloblastoma                      | teen age                   |
| Ameloblastoma                           | after 30 years             |
| Central giant-cell reparative granuloma | under 20 years             |

TABLE 4 Oral lesions classified by site predilection.

| Lesion                                        | Site                                           |
|-----------------------------------------------|------------------------------------------------|
| Nicotinic palantinus                          | palate                                         |
| White hairy tongue                            | dorsum of tongue                               |
| Geographic tongue                             | dorsum of tongue                               |
| Herpangina                                    | soft palate, tonsil, uvula pharynx             |
| Pterygoid ulcer                               | soft palate                                    |
| Lymphomas and leukaemias                      | gingiva                                        |
| Black hairy tongue                            | dorsum of tongue                               |
| Fibroma                                       | gingiva                                        |
| Sialadenitis                                  | floor of mouth                                 |
| Tori                                          | midline of palate or mandible<br>(lingual)     |
| Pregnancy tumour                              | gingiva, especially interdental papilla        |
| Peripheral giant-cell reparative<br>granuloma | gingiva, especially interdental papilla        |
| Eosinophilic granuloma                        | maxilla or mandibular gingiva                  |
| Cystic hygroma, ranula                        | floor of mouth                                 |
| Residual cyst                                 | edentulous space                               |
| Median palatine cyst                          | midline of palate                              |
| Median alveolar cyst                          | midline maxilla anterior to incisal<br>papilla |
| Globulomaxillary cyst                         | between lateral incisor and cuspid<br>teeth    |
| Cementoma                                     | mandible, anterior teeth                       |
| Mumps                                         | parotid gland                                  |

ondary gingivostomatitis, herpes labialis and herpes buccalis are all caused by the herpes simplex virus and are manifestations of the same condition.

All these viral diseases present the same histological picture, as do all the allergies. Identification depends upon clinical manifestations and laboratory tests such as sensitivity tests, complement fixation tests and animal inoculation.

Microscopically, there is hyperaemia and oedema in the subepithelial tissue. Fluid accumulates between the epithelium or between the epithelium and connective tissue. Small pockets of fluid coalesce to form a sac which appears clinically as a vesicle. Inclusion bodies are present in the viral vesicles. The vesicles rupture, leaving an ulcer which becomes secondarily infected. Neutrophil and lymphocytic infiltration occurs. The ulcers are painful. Healing begins in about three days and within seven to 14 days the lesion completely heals with no scarring.

*Secondary Herpetic Stomatitis.*— After a primary infection with the herpes virus, this organism presumably lies dormant in the cells. Subsequently, whenever there is lowered resistance of the tissues, herpetic vesicles may reappear. This time the infection is not as extensive as in the primary stage. This process seems to be triggered in upper respiratory infections, trauma, stress, dental appointments (injection of local anaesthetics), menstruation and allergies.

These lesions follow the same course as the primary lesion, and heal leaving no scar.

The treatment is symptomatic. Vitamin B complex, antibiotics and immunization with smallpox vaccine have been tried with questionable success. Gamma globulin therapy seems to have merit in severe cases of recurrent herpetic stomatitis or in the primary form.

*Erythema Multiforme.*— This is a self-limiting disease of the skin and mucous



membrane. Its aetiology is unknown. A viral or allergic basis has been suggested. In some instances the disease has been shown to be an allergic response to drugs such as sulphonamides, penicillin and salicylates.

Young adults are most frequently affected and lesions may occur anywhere on the skin, oral mucosa, conjunctiva and genital mucous membrane. The history and the clinical features are of the utmost importance in making a diagnosis.

The oral lesions heal without a scar. Treatment is palliative.

#### FIRM NONHAEMORRHAGIC LESIONS

*Irritation Fibroma.* — This tumour-like growth is elevated, pedunculated or sessile, usually of normal colour, but may be paler than the normal mucosa. It occurs on the tongue, lip, buccal mucosa etc. in response to mild persistent irritation.

*Fibroma.*—This is usually a spontaneous fibrous growth of soft oral tissue. The commonest site of origin is from an interdental papilla, but a fibroma may occur anywhere. Microscopically, the lesion is more cellular than the irritation fibroma. Some fibromas show myxomatous degeneration (myxofibroma); others show few or many areas of calcification (fibroma with calcification).

*Fibromatosis (Hyperplastic Gingivitis).*—Gingival inflammation associated with enlargement of the gingiva is called hyperplastic gingivitis or gingival fibromatosis. This condition is attributed to a variety of causes.

These include low-grade irritation due to overhanging fillings, poor contacts, and calculus; genetic factors; or the intake of certain drugs.

Local causes produce a swollen gingiva which is neither red nor painful, leading to pseudopocketing. There is no bone loss and the teeth are firm, as opposed to true pocketing. Microscopically, there is strati-

fied squamous epithelium covering the gingiva. This may be keratinized. The subepithelial tissues show an increase in collagen bundles. In between the collagen bundles are found plasma cells and lymphocytes.

Dilantin hyperplasia occurs in 10-30 per cent of patients who receive sodium diphenylhydantoin. The clinical picture is similar except that the gingiva is paler and microscopically there is more collagen formation. The history, here, is important and is diagnostic.

Idiopathic hyperplasia (fibromatosis gingivae) resembles dilantin hyperplasia but is familial and may be associated with other developmental defects.

#### HAEMORRHAGIC GROWTHS

*Peripheral Giant-Cell Reparative Granuloma (Giant-cell Epulis).* — These are pedunculated or broad-based growths, usually smooth-surfaced, and reddish-blue in colour. They bleed easily. They are limited to the gingiva or to the soft tissue of the edentulous ridge. Most of the patients are over 20 years of age.

Radiographs are negative, but occasionally underlying bone may show a radiolucency.

Microscopically, these tumours are identical to the central variety, being made up of fibroblasts, young blood vessels, and multinucleated giant-cells. The tumour is completely covered by stratified squamous epithelium.

The latest thinking seems to indicate that these tumours originate from some kind of local irritation. It is also thought that there is an intimate relationship with the periodontal membrane.

Treatment is by local excision. The use of a cautery as an adjunct has also been suggested. Deep incision to include the base is necessary to prevent recurrence. It is felt by some that the incised area should be packed to help prevent recurrence. If recurrence persists, removal of adjacent teeth is sometimes indicated.

*Pregnancy Tumour.* — A small percentage of women with pregnancy gingivitis develop tumour-like growths on the gingiva about the third month of their pregnancy. These resemble the peripheral giant-cell reparative granulomas. Sometimes they regress after pregnancy but many must be removed surgically. They will sometimes recur at the same site in subsequent pregnancies.

Microscopically, the lesion is covered by stratified squamous epithelium and contains numerous small capillaries interspersed by oedematous connective tissue. There is mild to dense infiltration by polymorphonuclear leucocytes, plasma cells and lymphocytes. Treatment is by excision following parturition if the tumour does not regress.

#### COMPRESSIBLE LESIONS

*Parulis.* — This lesion arises from a periapical abscess or a deep periodontal pocket. It appears on the gingiva as a small circumscribed boil which usually has a history of rupturing, discharging pus, and reforming. An infected tooth or a periodontal pocket is present.

*Mucocele.* — This is a mucus-containing cyst which occurs in the salivary gland-bearing areas of the oral mucosa. It appears as a small circumscribed, usually elevated, translucent bluish lesion of the mucosa.

A mucocele can occur anywhere in the oral cavity except the anterior part of the hard palate which is devoid of salivary glands. Microscopically, there is a cystic sac lined usually by granulation tissue and containing mucus. The salivary gland as well as the connective tissue in the area shows infiltration by neutrophils, lymphocytes and plasma cells.

Mucocele are formed because of traumatic rupture of the secretory duct of the salivary gland and the subsequent accumulation of saliva in the tissues. The treatment must, therefore, consist of the removal of the cyst and the offending gland. Because most minor salivary glands

are very superficial, the gland is usually removed with the mucocele.

*Ranula.* — This is a large, soft, mucus-containing swelling in the floor of the mouth.

It is identical to the mucocele histologically and in its formation, except that it is associated with a larger gland and is therefore of greater size. A ranula results from a defect in Wharton's duct or Bartholin's duct. This can be treated by a 'Partch' procedure which establishes a surface connection for the severed or damaged duct.

#### RADIOLUCENT LESIONS

*Central Giant-Cell Reparative Granuloma.* — This tumour is seen predominantly in patients under 20 years of age. It is commoner in female than in male patients. The mandible is involved more frequently than the maxilla. The lesion is expansive and usually causes migration of the teeth.

Microscopically, the lesion consists of numerous multinucleated giant-cells dispersed throughout the specimen, many small blood vessels, and an abundance of young fibroblasts with ovoid nuclei. There are also foci of haemosiderin and areas of bone trabeculae. The microscopic appearance resembles that of the peripheral giant-cell reparative granuloma, from which it is distinguished by the location. It resembles also the giant-cell tumour, but this lesion occurs rarely, if ever, in the jaws. It is differentiated from the aneurysmal bone cyst by the absence of pools of blood. It resembles also the brown nodes of hyperparathyroidism. In this case there is generalized bone destruction, increased blood calcium, alkaline phosphate and lowered blood phosphorous.

The radiographic appearance is similar to that of ameloblastoma, follicular cyst, radicular or residual cyst, aneurysmal bone cyst, and non-calcifying odontogenic tumour. The ameloblastoma occurs usual-

ly at a later age. The follicular cyst is either associated with a missing tooth (primordial cyst) or the tooth is directly related to the cyst (dentigerous cyst). The radicular cyst is associated with a nonvital tooth.

**Cementoma.**—This is a benign mesenchymal odontogenic tumour. It is a periapical lesion. It is asymptomatic. Females are affected more frequently than males, and the patients are usually middle-aged. About 95 per cent of the lesions occur in the mandible and the usual site is the incisor teeth. Lesions may be single or multiple. The involved teeth are vital.

The radiographic appearance depends upon the stage of development, being radiolucent at first and later becoming radiopaque.

This lesion requires no treatment.

#### RADIOPAQUE LESIONS

**Osteoma.**—This is a benign tumour that grows slowly and may cease to grow spontaneously. Radiographs show a dense osteosclerotic mass. Microscopically, there is dense, mature, lamellated bone.

Differentiation between tori, exostosis,

enostosis and osteoma is often arbitrary.

When excised, this lesion does not recur.

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## annotations

### SURVEY OF VIEWS ON DENTISTRY AND DENTAL HEALTH PRACTICES

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Earlier this year the writer was invited to participate in a dental lecture program for student nurses at one of the major

hospitals (Hospital A) in Metropolitan Winnipeg. In order to acquire information regarding the students' level of dental knowledge, a questionnaire was designed and submitted to the students (8). Their responses had some disturbing undertones. It was therefore decided to extend the survey in order to obtain a more representative picture of current ideas about dentistry and dental health practices. Questionnaires were distributed to student nurses (91) at another Winnipeg

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TABLE 1 Opinions on dentistry and dental health practices reported by student nurses, public health nurses, and by mothers of children attending a health department dental clinic in Winnipeg, 1963.

| Opinion                                                                    | Distribution of responses |               |            |                      |         |
|----------------------------------------------------------------------------|---------------------------|---------------|------------|----------------------|---------|
|                                                                            | Student nurses            |               |            | Public health nurses | Mothers |
|                                                                            | Hospital A                |               | Hospital B |                      |         |
|                                                                            | First survey              | Second survey |            |                      |         |
| Respondents                                                                | 8                         | 8             | 91         | 23                   | 50      |
| 1. A dentist is educated, trained and licensed by qualifying through       |                           |               |            |                      |         |
| (a) apprenticeship and contact training with a licensed dentist            | 4                         | 2             | 23         | 3                    | 18      |
| (b) vocational and trade school training                                   | 0                         | 0             | 8          | 1                    | 7       |
| (c) passing university standards                                           | 4                         | 6             | 60         | 19                   | 21      |
| (d) no answer                                                              | 0                         | 0             | 0          | 0                    | 4       |
| 2. If you only clean your teeth once a day, the best time to clean them is |                           |               |            |                      |         |
| (a) on arising in the morning                                              | 1                         | 1             | 10         | 2                    | 20      |
| (b) after lunch                                                            | 0                         | 0             | 7          | 5                    | 3       |
| (c) before retiring to bed                                                 | 7                         | 7             | 74         | 16                   | 27      |
| 3. Where children cannot use a toothbrush after meals, they should         |                           |               |            |                      |         |
| (a) use a corner of their handkerchief                                     | 0                         | 0             | 2          | 0                    | 1       |
| (b) rinse the mouth with water and swallow                                 | 8                         | 8             | 78         | 18                   | 27      |
| (c) avoid sticky desserts                                                  | 0                         | 0             | 11         | 5                    | 22      |
| 4. Dental caries in Winnipeg is                                            |                           |               |            |                      |         |
| (a) increasing                                                             | 2                         | 1             | 34         | 11                   | 28      |
| (b) approximately unchanged                                                | 3                         | 1             | 23         | 5                    | 10      |
| (c) decreasing                                                             | 3                         | 6             | 33         | 7                    | 11      |
| (d) no answer                                                              | 0                         | 0             | 1          | 0                    | 1       |
| 5. Malnutrition nowadays is due to                                         |                           |               |            |                      |         |
| (a) poverty                                                                | 1                         | 0             | 10         | 1                    | 2       |
| (b) poor housing and working facilities                                    | 0                         | 0             | 1          | 0                    | 0       |
| (c) lack of knowledge about a good diet                                    | 7                         | 8             | 80         | 22                   | 46      |
| (d) no answer                                                              | 0                         | 0             | 0          | 0                    | 2       |
| 6. Dietary carbohydrate (starch) is essential for                          |                           |               |            |                      |         |
| (a) growth                                                                 | 1                         | 2             | 4          | 3                    | 11      |
| (b) energy                                                                 | 5                         | 4             | 84         | 20                   | 17      |
| (c) sound teeth                                                            | 2                         | 2             | 3          | 0                    | 18      |
| (d) no answer                                                              | 0                         | 0             | 0          | 0                    | 4       |



| Opinion                                                                 | Distribution of responses |               |            |                      |         |
|-------------------------------------------------------------------------|---------------------------|---------------|------------|----------------------|---------|
|                                                                         | Student nurses            |               |            | Public health nurses | Mothers |
|                                                                         | Hospital A                |               | Hospital B |                      |         |
|                                                                         | First survey              | Second survey |            |                      |         |
| 7. The food most likely to cause decay is                               |                           |               |            |                      |         |
| (a) syrup                                                               | 0                         | 0             | 1          | 0                    | 0       |
| (b) pudding                                                             | 5                         | 5             | 78         | 21                   | 44      |
| (c) meat                                                                | 3                         | 3             | 12         | 2                    | 6       |
| 8. Failure to chew food results in                                      |                           |               |            |                      |         |
| (a) indigestion                                                         | 7                         | 5             | 58         | 21                   | 39      |
| (b) diarrhoea                                                           | 0                         | 0             | 30         | 1                    | 2       |
| (c) dental decay                                                        | 1                         | 3             | 3          | 1                    | 8       |
| (d) no answer                                                           | 0                         | 0             | 0          | 0                    | 1       |
| 9. The most important principle in a community dental health program is |                           |               |            |                      |         |
| (a) health education                                                    | 8                         | 8             | 77         | 16                   | 25      |
| (b) treatment                                                           | 0                         | 0             | 2          | 1                    | 1       |
| (c) free dental clinics                                                 | 0                         | 0             | 9          | 1                    | 12      |
| (d) research                                                            | 0                         | 0             | 0          | 0                    | 0       |
| (e) fluoridation                                                        | 0                         | 0             | 3          | 4                    | 4       |
| (f) dental health insurance                                             | 0                         | 0             | 0          | 1                    | 8       |
| 10. Periodontal disease or inflammation is a condition affecting the    |                           |               |            |                      |         |
| (a) teeth                                                               | 0                         | 0             | 5          | 2                    | 23      |
| (b) feet                                                                | 0                         | 0             | 0          | 0                    | 0       |
| (c) supporting structures of teeth                                      | 8                         | 8             | 82         | 21                   | 22      |
| (d) palate                                                              | 0                         | 0             | 2          | 0                    | 2       |
| (e) no answer                                                           | 0                         | 0             | 2          | 0                    | 3       |

hospital (Hospital B), to graduate public health nurses (23) attending a meeting of their group, and to mothers (50) attending one of the city's dental treatment clinics provided for indigent children. A follow-up distribution of questionnaires was made at Hospital A two weeks after completion of the short lecture program there. A total of 180 responses were obtained.

## RESULTS

The distribution of replies by the various respondents is illustrated in Table 1. *Education and Training of the Dentist.*—Responses to this question revealed some astonishing ideas about the dental profession. Fully 37 per cent of the entire group of students nurses, public health nurses and mothers thought that a den-

tist acquires his skill either through apprenticeship and contact training with a licensed practitioner or by attending a vocational training school. Thirty-five per cent of the student nurses, 17 per cent of the public health nurses, and 50 per cent of the mothers held this view. Nine per cent of the entire group believed that a dentist attends a vocational training school.

Sixty-five per cent of the student nurses, 83 per cent of the public health nurses and 42 per cent of the mothers considered dentistry as a university discipline. Eight per cent of the mothers were undecided or declined to answer this question.

*Oral Hygiene Practices.*—Knowledge of oral hygiene practices was fairly good, although there is reason to believe that their application would be lower than indicated in the survey. Questioned about the best time of day for cleaning the teeth and asked to suggest possible alternatives to the use of a toothbrush, both student and public health nurses knew how to handle these situations. The mothers were more or less divided between rinsing the mouth after eating and avoiding sticky desserts if a toothbrush is not available.

*Food.*—Questioned as to whether carbohydrates are essential for growth, energy or the formation of teeth, most of the student and public health nurses regarded carbohydrates primarily as energy foods. If interpretation of the role of carbohydrates reflects knowledge gained from education, then the mothers' responses to this question may likely reflect the influence of their level of education and their economic status. The fact that 36 per cent of these mothers of indigent children considered carbohydrates essential to tooth formation suggests that this level of society has not responded to the dental profession's warnings regarding over-indulgence. This is further illustrated by the sizeable number of mothers (12 per cent) and student nurses (17

per cent) who considered meat to be more cariogenic than pudding.

*Inadequate Mastication.* — Responses to the question regarding the sequelae of inadequate mastication are open to speculation. The association by the student nurses of diarrhoea with hastily eaten or improperly masticated food may be based on personal experience during the busy days of an undergraduate nurse's routine. Failure to chew food adequately is not likely to cause tooth decay.

*Community Dental Health Measures.*—The subjects were questioned about the relative importance of health education, treatment, the provision of free dental clinics, research, fluoridation, and pre-paid dental care. The nurses favoured health education as the most important measure, probably reflecting their training and experience. Twenty-five per cent of the mothers expressed a wish for free dental clinics. This desire may stem from a need for assistance in financing and obtaining health care for their children.

*Follow-Up Survey of Student Nurses.*—A comparison of responses to the original and follow-up questionnaires of the small group of student nurses in Hospital A suggests that very few previously held opinions were altered as a result of the lecture program. More students believed that caries prevalence in Winnipeg is declining when answering the follow-up questionnaire than they did in the original questionnaire. One student changed her opinion about carbohydrates. In the original survey she labelled carbohydrates as an energy food; in the follow-up survey she considered carbohydrates essential for growth. Two students altered their opinion regarding the effects of improper mastication from "indigestion" to "causes tooth decay." Two students still clung to the idea that a dentist is educated, trained and licensed as a result of apprenticeship and contact training with a licensed practitioner.

### **A tribute to Ernest Charron**



One sunny day in the spring of 1913, a handsome young 22-year-old strode from Laval's (now Université de Montréal) dental faculty, bade his classmates farewell and proceeded to carve for himself a career of national eminence in dentistry. Today, many dentists throughout Canada will want to join in commemorating the fiftieth anniversary of Ernest Charron's admission to the practice of dentistry.

During the span of his professional life Dr. Charron witnessed the flowering of dentistry as a scientific discipline. Practitioner, teacher, writer and scholar of note, he took an active part in the progress of dental education and evolution of organized dentistry.

Soon after graduation Dr. Charron embarked on postgraduate studies in anaesthesiology and oral surgery. The quest for knowledge led him first to Philadelphia, where he studied under Ruth Miller and Guido Fischer, and subsequently at various times to New York, Chicago, Boston and Paris. Between visits to foreign centres of learning, Dr. Charron served his alma mater where he rose from lecturer and clinician in 1915 to become professor and head of the Department of Oral Surgery and Anaesthesia by 1925. Five years later he assumed the additional duties of secretary to the faculty, a position which he held for 14 years.

A major turning point in Dr. Charron's career was his appointment in 1944 as

dean and director of studies. In that position he applied himself to a major reorganization of the university's dental curriculum which ultimately raised Canada's only French language dental faculty to a position of eminence among the nation's dental schools. With indefatigable resolution he sought out grants and scholarships to enable his staff members to pursue necessary graduate education. He also recognized the practising dentist's need for continuing education by initiating a program of refresher courses which are in wide demand. His tenure as dean was characterized by vision and discipline, yet tempered by courtesy and justice. Thanks to Dr. Charron's vigorous leadership Montreal's dental faculty now offers a program of dental education which is second to none.

In a career studded with countless accolades, Dr. Charron became a co-founder and president of the Cercle universitaire de Montréal, president of the College of Dental Surgeons of the Province of Quebec (1924-27), president of the International College of Dentists (1952), and fellow in dental surgery of the Royal College of Surgeons of England (1948) and of the Royal College of Surgeons of Edinburgh (1951). He is an honorary member of the Canadian Dental Association and an officer of L'Académie française. In 1958 Dalhousie University conferred on him an honorary doctorate of laws.

At the age of 72, his many friends continue to seek the companionship of this urbane and courteous gentleman

with the ready wit, vivid reminiscences and keen interest in contemporary events. The past accomplishments of this untiring and devoted man, so briefly portrayed here, already attest to an impressive record of service to his fellow Canadians. But the full value of his contributions may hopefully not be known for many years to come. To that end his many friends and colleagues across Canada join in wishing Ernest Charron — dentist, teacher, Canadian — continued good health, long life and happiness.

"I would rather bring a flower  
To a friend at any hour  
Than to scatter roses white and red  
On his casket when he's dead."

J.A.F.

### **Living memorial contributions to the Canadian Fund for Dental Education**

A quiet unassuming dentist departs this earth. During his lifetime he gave unstintingly, unselfishly and untiringly to the profession which he loved so well and through his profession to the public which he served with equal devotion. But his contributions to dentistry and to mankind do not end with his death. Striving for the most fitting tribute to a man they loved, his family suggests, and friends respond by making generous contributions to the Canadian Fund for Dental Education in lieu of donating flowers.

Thus, in closing the last chapter of a long and useful life, there is left to those who follow a precious gift that will grow greater with each passing year.

Living memorial contributions to the Canadian Fund for Dental Education are a fitting tribute to the memory of departed members of the dental profession, the dental supply industry and other friends and their families who pass on each year. Moreover, these contributions aid dentistry. They give much-needed assistance

to our dental schools through teacher training, research, fellowships, scholarships and loan funds. And thereby they extend a helping hand to youth.

All memorial contributions received by the fund are acknowledged to the donor and to the family of the departed whose memory is being honoured. As with all contributions to the fund, memorial contributions qualify for income tax deduction.

Obituary notices suggesting contributions to the fund are appropriate in expression of sympathy. Those who wish to pay tribute to a deceased colleague or friend may forward their cheque to the Canadian Fund for Dental Education at 234 St. George Street, Toronto 5, Ontario, indicating in whose memory the contribution is made and the name and address of next of kin to whom acknowledgement is to be sent.

So won't you please consider the fund when an occasion for memorial contributions arises?

### **A sensible investment**

Metropolitan Toronto, on September 4, became the third largest municipality in North America to adopt fluoridation, ranking after Chicago and Philadelphia. Toronto is also the largest to do so by referendum.

With the addition of Toronto, one in five Canadians is now drinking fluoridated water. The addition also increases the number of fluoridating Canadian communities to 182 with a total population of 3,750,000.

City Medical Health Officer A. R. J. Boyd estimates that it would cost \$2 million a year to provide treatment for dental caries in Metro Toronto children up to the age of 14 years. Through fluoridation a 60 per cent reduction in caries incidence would mean an annual saving of \$1.2 million in dental bills, according to Dr. Boyd, and "far from being an expense the esti-



mated annual investment of \$165,000 (ten cents per person) for fluoridation should bring a financial return of sevenfold and untold benefit in improved health and in prevention of suffering."

And so another pipeline investment — this one in the health of children — begins to pay off. We dare to hope that Montreal and Vancouver will not let little Hometown indefinitely steal all the thunder.

## income tax

### Federal income tax returns by dentists

For guidance to the dental profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out.

#### INCOME

There should be maintained by every member of the dental profession an accurate record of income received from his profession (fees) and from other sources (investments, real estate rentals, etc.). The record should be clear and capable of being rapidly checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

#### EXPENSES

Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Dental and like supplies.
- (b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums:

Amounts of salaries and wages paid should be reported on Form T4, obtainable from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income of the payer.)

- (c) Telephone expenses incurred in connection with professional practice.

- (d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Form T4. (Do not confuse with individual return of income, Form T1, to be filed on or before April 30 in each year.)

- (e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. [See (g).]

- (f) Postage and stationery.

- (g) Proportional expenses of dentists practising from their residences:

1. Owned by the dentist: Where a dentist practises from a house he owns and as well resides in, a proportionate

allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest on mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (m).

2. Rented by the dentist: The rent will be apportioned if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (1) above.

(h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practise is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

The cost of attending postgraduate courses will not be allowed.

(i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their

homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income.

(1) Social club dues are allowable as deductions from income only when, and to the extent that, they are paid for business purposes, and any dentist claiming them may be required to prove, to the satisfaction of the taxation authorities that the amount claimed was expended wholly and directly for the purpose of increasing his business income. "Social club dues" means annual or monthly membership dues or fees; it does not include an initiation or entrance fee or the cost of a share of a club's capital stock, nor does it include charges for food and drink, living accommodation, fees for the introduction of guests and the like.

(m) Capital Cost Allowance (Depreciation):

The method of computing capital cost allowance for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

A description of the treatment of capital cost allowance may be found on pages two and four of the T1 General Information Sheet.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use, not exceeding the maximum rate (see tables), is applied to this new

TABLE 1

| Assets                                                                | Class | Maximum rate |
|-----------------------------------------------------------------------|-------|--------------|
| Dental equipment including instruments each costing \$100 or more     | 8     | 20%          |
| Instruments costing less than \$100                                   | 12    | 100%         |
| Office furniture and fixtures                                         | 8     | 20%          |
| Frame building (office or residence used both as dwelling and office) | 6     | 10%          |
| Brick building (office or residence used both as dwelling and office) | 3     | 5%           |

balance for each class to obtain the capital cost allowance you may claim this year.

The schedule on page four of the T1 General Information Sheet is reproduced at the foot of this page.

The maximum rates for the classes of equipment most used by dentists appear in Table 1.

Instruments costing less than \$100 each belong in class 12 and have a maximum allowance rate of 100 per cent. They should not be included in expenses but their cost should be recorded as additions in column 3 of the schedule.

Where a dentist practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000 and one-third of the space were used for the office, the dentist would use \$4,000 as the business portion of the cost and apply the building rate of 5 per cent to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

#### CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conven-

tions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. There are no geographical restrictions and the convention, therefore, need not necessarily have been held in Canada. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof;

2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and

3. The expenses incurred, segregating (a) Transportation expenses, (b) Meals, and (c) Hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

#### REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

(a) In the case of an employee receiving a salary who is covered by a registered

#### SCHEDULE

| (1)          | (2)                                                                        | (3)                           | (4)                                 | (5)                                                                         | (6)    | (7)                             | (8)                                                               |
|--------------|----------------------------------------------------------------------------|-------------------------------|-------------------------------------|-----------------------------------------------------------------------------|--------|---------------------------------|-------------------------------------------------------------------|
| Class number | Undepreciated capital cost at beginning of 1963<br>(Col. 8 of 1962 return) | Cost of additions during 1963 | Proceeds from disposals during 1963 | Undepreciated capital cost before 1963 allowance<br>(Col. 2 plus 3, less 4) | Rate % | Capital cost allowance for 1963 | Undepreciated capital cost at end of 1963<br>(Col. 5 less Col. 7) |

pension fund or plan (whether or not he contributes to the pension fund) to \$1,500 or 10 per cent of his earned income, minus the amount, if any, he is allowed to deduct from income for his contribution to the pension fund.

(b) In other cases, to the lesser of \$2,500 or 10 per cent of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1963 and within 60 days after the end of the year. A payment made in January or February 1963 cannot be claimed in 1963 if it could have been deducted in 1962.

Individuals enquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 15, 1964 may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1963. The closing date for applications and contributions applicable to 1963 is February 15, 1964.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1964 to each participant to support claims made for deductions in 1963 income tax returns.

Applications for membership in CDARSP received after February 15, 1964 will entitle participants to tax deferment

lowing dates, March 31, June 30, September 20 and December 31.

#### DENTISTS UNDER SALARY CONTRACT

The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses; annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses. Without trying to recite the exact provisions of the law the main points are:

(a) That the expenses must have been incurred in the performance of the duties of the office for employment.

(b) That the employee is required under the contract of employment to pay the expenses.

(c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

#### INCOME FROM A PARTNERSHIP

Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

#### PROVINCIAL TAXES ON INDIVIDUALS

For the 1962 and following taxation years, each of the ten provinces imposes its own tax on the income earned by an individual in that province. With the exception of the province of Quebec, no separate provincial income tax return need be filed by an individual whose income is subject to provincial tax.

#### PAYMENT OF TAX

Individuals whose income is more than 25 per cent derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the fol-



## dentistry in the news

### The Association

#### LIVING MEMORIAL FUND TO AID DENTAL STUDENTS

The Canadian Fund for Dental Education has established a living memorial fund to aid dental students, assist dental schools and support research. Contributions to this fund will honour the memory of a deceased person and serve the future at the same time, said J. D. McLean, CFDE president.

A contribution should be accompanied by the name of the person in whose memory it is being made, the name and address of the next-of-kin to whom acknowledgment is to be sent and the donor's name. The next-of-kin will be notified of the contribution with an appropriate card from the fund. Donors will receive acknowledgment by an official receipt which should be retained for income tax deduction.

The fund's address is 234 St. George Street, Toronto 5, Ontario.

#### RECRUITMENT MEETING OF NOVEMBER 4

The National Recruitment Committee of the Canadian Dental Association met in Toronto on November 4. Reports of nine provincial recruitment committees were considered as well as plans for future activities. Serving on the national group are W. J. Dunn of Toronto, chairman; R. G. Ellis of Toronto, representing Ontario; John Michaelson of Vancouver, representing the western provinces; Gustave Ratté of Quebec City, representing his province, and D. C. Steeves of Moncton, representing the Atlantic region. Two consultants sit with the committee. They are Mrs. Donna Leslie, a dental hygienist, and Mr. Charles Peirce, representing the Canadian Section of the American Dental Trade Association. J.-P. Lussier of Montreal, chairman of the Council on Education under whose aegis the committee functions, is an ex officio member.



Pamphlet rack

#### NEW PAMPHLET RACK AVAILABLE

An attractive new pamphlet rack, suitable for use in waiting rooms of dental offices and clinics, is now available from the Canadian Dental Association. This pamphlet rack is solidly constructed of walnut-finish wood grain masonite. Pamphlet holders are of baked, gold coloured stainless steel. The rack can be hung on a wall or will stand on a table.

These racks may be purchased singly (postage-paid price \$7.95 each) or as a combination package of a pamphlet rack and samples of eight different dental health pamphlets (postage-paid price \$9.95). Orders should be sent to the Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

### Canada and the Provinces

#### MARITIME DENTAL PLAN STARTS

The Maritime Hospital Service Association has decided to offer its employees a prepaid dental care program. The plan is to operate experimentally for one year and, if successful, will form the basis of a dental plan to be

offered to the public in the Atlantic provinces. The Association administers Maritime Blue Cross and Blue Shield plans from its headquarters in Moncton, New Brunswick.

The Zurich Insurance Company is now marketing two dental plans in Canada, as described in the November 1963 issue of the *Journal of the Canadian Dental Association*.

### NEWFOUNDLAND TO UNDERWRITE PHYSICIANS' AND DENTISTS' TRAINING

The Newfoundland government is to put 300 physicians and dentists through university and professional schools at a cost of about \$4 million, Premier Smallwood reportedly announced on October 11.

Students will be started at Memorial University, St. Johns, each year, the government paying \$800 a year to local students and \$1,200 to students living in other parts of the province.

After the required preprofessional studies at Memorial University students may go to any medical or dental school in Canada, the United States or Great Britain, receiving up to \$2,000 a year.

Mr. Smallwood said that successful applicants must sign a contract that they will spend the first four years of their practice as employees of the Newfoundland Department of Health. After that they will be expected to spend three more years practising in Newfoundland, either with the government or privately.

### MORE PUBLIC FUNDS TO TRAIN PHYSICIANS, DENTISTS?

"Canadian medical and dental students can look forward to more government assistance to help finance the university education," So says Beatrice Riddell in the October 19 issue of *The Financial Post*. Miss Riddell cites the critical shortage of physicians and dentists as the reason for greater government participation in medical and dental education. She predicts a desperate situation for the future unless more young men and women are encouraged to enter these fields. "But increased government assistance could well produce a bottleneck if it is not accompanied by expanded university facilities and teaching staff," Miss Riddell warns.

### POWNALL RECEIVES ONTARIO RED CROSS APPOINTMENT

K. F. Pownall, a 1951 graduate of the Faculty of Dentistry, University of Toronto, has been appointed chairman of the Dental

Committee of Ontario Division of The Canadian Red Cross Society.

In 1949 Dr. Pownall was associated with



K. F. Pownall

the Ontario Junior Red Cross dental coach in northern Ontario as dental assistant. In 1951 he became the first dentist to serve remote areas of Newfoundland through that province's Junior Red Cross Dental Scheme, treating children and travelling by boat and snowmobile.

Since returning to Toronto, Dr. Pownall has served on the dental staff of the Hospital for Sick Children for the past ten years. He is also a demonstrator in paedodontics at the Faculty of Dentistry, University of Toronto.

Dr. Pownall is a member of the Canadian Dental Association's Council on Public Health. He is immediate past chairman of the Dental Public Health Committee of the Ontario Dental Association; past governor of the Ontario Dental Association; past councillor of the Academy of Dentistry, Toronto; and past president of the West Toronto Dental Association.

### CONNOR IS NEW DENTAL CONSULTANT AT NATIONAL HEALTH AND WELFARE

R. A. Connor, director of dental services for the Manitoba Department of Health, has been appointed director of the Dental Health Division and chief dental consultant for the Department of National Health and Welfare, Ottawa. Dr. Connor assumes his new duties on December 14, replacing the retiring dental consultant, H. K. Brown.

Dr. Connor has been with the Manitoba health department for the past five years. Prior to that he was regional director of dental public health in Ontario's Niagara Peninsula. Dr. Connor has been engaged in dental public health since 1947. He received

a diploma in dental public health from the School of Hygiene and Faculty of Dentistry, University of Toronto, in 1949.



R. A. Connor

A dental graduate of the University of Toronto, Dr. Connor was in private practice in St. Thomas, Ontario, for seven years prior to World War II. Throughout the war he served with the Canadian Army Dental Corps in Europe, receiving his discharge in the fall of 1946.

Dr. Connor is an immediate past chairman of the dental section, Canadian Public Health Association, and is presently a member of the executive council of that organization. He is also a staff member of the Faculty of Dentistry, University of Manitoba.

### ALBERTA DENTISTS GAIN PROMINENCE

Dean H. R. MacLean of the Faculty of Dentistry, University of Alberta, was recently elected president of the Canadian Section, International College of Dentists.

S. G. Geldart of Edmonton was elected to the Alberta legislature in the June 10 provincial election. Dr. Geldart represents the Edmonton West constituency (S.C.), a newly created provincial riding.

## International Items

### COLOMBIAN DENTIST NAMED TO AMERICAN WHO POST

Dario Restrepo has been named regional adviser in dental health for the Americas at the World Health Organization regional office in Washington. He succeeds Mario Chaves of Brazil who earlier this year was

appointed chief dental health officer at WHO headquarters in Geneva. Prior to his Washington appointment, Dr. Restrepo was director of the Department of Preventive and Social Dentistry at the dental school in Medellin, Colombia.

### AMERICAN DENTAL ASSOCIATION MEETS

About 18,000 registrants attended the 104th annual session of the American Dental Association in Atlantic City, New Jersey, October 14-17. Many Canadian dentists, as well as dentists from other countries, were present. The Canadian Dental Association was represented officially by President-elect Rémy Langlois and secretary Don W. Gullett.

More than 500 essays, clinics, lectures, films and exhibits were featured. The A.D.A.'s 416-member House of Delegates also approved such questions as a dues increase (from \$30 to \$40 per dentist), new central office building to cost \$12 million, and recognition of endodontics as a specialty. Pennsylvania Governor William Scranton was keynote speaker for the opening session. Presiding officer for the session was A.D.A. President G. D. Timmons, dean of Temple University School of Dentistry. At the close of the session, J. P. Hollers of San Antonio, Texas, was installed as president for 1963-64.

### POSTGRADUATE COURSES AVAILABLE IN NEW YORK

The First District Dental Society will offer a variety of short postgraduate refresher courses during the early winter months. Further information concerning these courses may be obtained from J. J. Adelson, First District Dental Society, Statler Hilton Hotel, 7th Avenue and West 33rd Street, New York 1, U.S.A.

### TUFTS OFFERS FELLOWSHIPS IN PERIODONTICS

Two fellowships for dentists interested in research and teaching careers in periodontics are offered by Tufts University School of Dental Medicine, Boston. In addition to participation in an extensive research program, the fellowships offer training in periodontal pathology and an opportunity to prepare for advanced degrees. There is an annual stipend of \$5,000, and the fellowships are renewable. Further information may be obtained from Irving Glickman, Tufts University School of Dental Medicine, Department of Periodontology, 136 Harrison Avenue, Boston 11, Massachusetts, U.S.A.



## N. Y. HOSPITAL OFFERS DENTAL INTERNSHIPS, RESIDENCIES

A one-year internship in oral surgery, a one-year residency in anaesthesia, and an oral surgery residency to supplement the surgical internship are available effective July 1, 1964 at Morrisania City Hospital, Bronx, New York. Further information may be obtained from B. M. Cohen, director, Department of Dentistry, Morrisania City Hospital, Bronx, New York, U.S.A.

## GOLD FOIL MEETING SLATED FOR CHICAGO

The American Academy of Gold Foil Operators will hold an interim meeting at the University of Illinois College of Dentistry, Chicago, January 31, 1964. Visiting Canadian dentists are welcome to the meeting.

## MANY BRITONS OPPOSE NATIONAL HEALTH SERVICE

"More people in the United Kingdom are dissatisfied with the National Health Service and other welfare state programs than is commonly assumed," according to results of a national opinion survey by London's Institute of Economic Affairs, Limited, quoted in the September 16 issue of *The A.M.A. News* published by the American Medical Association. One-third of those interviewed thought that the state should continue the present service but allow people to contract out, pay less contributions and use the money saved to pay their own physician, etc. About one-fourth expressed the opinion that the state should take less in taxes and provide health services only for those people in need, and others should be left to pay or insure privately.

The IEA survey was conducted last April and May among 2,005 male heads of households selected by quota. Classes covered, in proper proportion, were upper middle class and middle class, lower middle class, skilled working class, and working class. The age range was 21 to 64. Interviews were conducted in all sections of England and in Scotland and Wales.

## Dental Organizations

### PEACE RIVER DENTISTS MEET

Peace River District dentists from Alberta and British Columbia met in Dawson Creek, October 4-5, to hear J. C. Bartels of Portland,

Oregon, discuss crown and bridge prosthodontics and full-mouth reconstruction. Presiding over the two-day meeting was J. I. Woronuk of Dawson Creek.

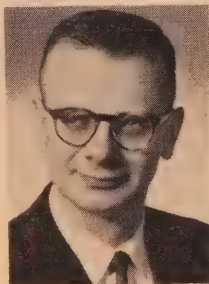
## JANKELSON ADDRESSES VANCOUVER SOCIETY

The Vancouver and District Dental Society's first meeting of the current season was addressed on October 1 by Bernard Jankelson of the University of Washington Dental School. Dr. Jankelson gave afternoon and evening lectures on problems associated with prosthodontics. During the afternoon Dr. Jankelson dealt with improved stability in denture bases. The evening discussion was devoted to post-insertion problems.

## DENTISTRY ON THE AIR IN BRITISH COLUMBIA

One of the projects of the Public Relations Committee of the British Columbia Dental Association is a public-participation program broadcast over Vancouver radio station CKLG each Monday at 9.00 p.m. Questions are telephoned to a panel of dentists. The program has continued without interruption for a year and a half. Dentists who have been on the panel are J. C. Martin, D. J. Yeo, O. F. Wright, R. A. Mitchell, E. J. Hyde and W. R. Upton.

## LINDSAY IS PRESIDENT OF VANCOUVER SOCIETY



R. K. Lindsay

A prominent Vancouver oral surgeon, R. K. Lindsay, is president of the Vancouver and District Dental Society for 1963-64. Other members of the executive of western Canada's largest metropolitan urban dental organization are B. M. Plumb, president-



elect; R. E. Cline, past president; and G. F. Copithorne, secretary-treasurer. J. I. Johnston, F. A. Mitchell, S. R. Moscovitch and T. E. Ramage are members of the Board of Directors. W. R. Upton is the executive secretary.

### ANTONI ADDRESSES EDMONTON SOCIETY

A. A. Antoni, professor of dental oral surgery, Faculty of Dentistry, University of Toronto, addressed members of the Edmonton and District Dental Society on October 3. Under the heading, "Oral surgery for the general practitioner," Dr. Antoni reviewed the use of antibiotics in treatment of oral infections, surgical flaps, and management of impacted teeth and fractures. Many Edmonton dentists attended the afternoon and evening sessions on this occasion.

### PRACTICE MANAGEMENT CLINICS IN MOOSE JAW AND SASKATOON

Ninety Moose Jaw and 70 Saskatoon dentists and dental assistants attended practice management clinics in the two Saskatchewan centres during October. The clinician, J. W. Stone of the University of Detroit, demonstrated the employment of multiple dental assistants to increase practice efficiency and reduce fatigue.

Newly elected members of the council of the College of Dental Surgeons of Saskatchewan are W. L. Clark of Conquest, H. H. Cowburn of Saskatoon, F. S. W. Green of North Battleford, and A. F. Muirhead of Moose Jaw.

Need for a dental service corporation in Saskatchewan was one of the principal topics at the annual meeting of the council of the college held in Saskatoon on November 3.

### MANITOBA ASSOCIATION MAKES GRANT TO UNIVERSITY

An annual grant of \$300 has been made by the Manitoba Dental Association to the Faculty of Dentistry, University of Manitoba. Known as the Manitoba Dental Association Project, moneys from the grant will be used for development of the university's dental school.

### MANITOBA ASSOCIATION MEETS IN JANUARY

Important business as well as clinical sessions have been scheduled for the annual

meeting of the Manitoba Dental Association at Winnipeg, January 20-22, 1964. All Manitoba dentists are urged to attend this meeting.

### MONTREAL ENDODONTISTS ACTIVE

An active program for dentists interested in advancing their knowledge of endodontics has been planned for the 1963-64 season according to Benjamin Sedlezky, secretary-treasurer of the Montreal Endodontia Society. Membership is open to all dentists in good standing with any dental society. The annual membership fee is \$10. Further enquiries should be directed to B. Sedlezky, 5845 Côte des Neiges, Montreal, P. Québec.

### DUGUAY IS PRESIDENT OF NEW BRUNSWICK SOCIETY

A Caraquet dentist, Blais Duguay, was named president of the New Brunswick Dental Society on September 21. Dr. Duguay replaces R. H. Dolan of Fredericton. The annual meeting of the society was held in Moncton with 45 members in attendance. Elected with Dr. Duguay were A. D. Bona of Saint John, vice-president, and R. F. Sansom of Saint John, registrar-secretary.

### SAINT JOHN DENTISTS NAME OFFICERS

H. S. Cummings, newly elected president of the Saint John, New Brunswick, Dental Society, presided at the group's opening meeting of the 1963-64 season on September 11. Other elected officers are M. N. Brown, vice-president; L. G. Zed, treasurer; and Monica E. Mooney, secretary. J. G. Blackmer is the society's representative to the New Brunswick Dental Society.

Honoured on this occasion was Arthur Steuermann, retiring secretary, who received an inscribed memento of appreciation for his ten years of service in that office.

S. M. Higgins of Perth, Ontario, was named as recipient of the society's undergraduate award at Dalhousie University, Halifax.

### HYPNOSIS IN DENTISTRY, TOPIC OF HALIFAX MEETING

"Training in hypnosis should be restricted to the medical, dental and psychological professions." So said R. J. Weil, assistant pro-

fessor of psychiatry in the Faculty of Medicine, Dalhousie University, when he addressed members of the Halifax County Dental Society at a regular monthly meeting, October 16. Dr. Weil traced the history of hypnosis, pointing out that the subject has received intermittent acceptance in the medical and dental professions. Hypnosis can be used in dentistry to relax patients, remove objections to treatment, help patients to adjust to prosthetic and orthodontic appliances, and as an adjunct in premedication. A hypnotic state can be induced by almost anyone who has studied the technique of induction. Not everyone can be hypnotized, however, Dr. Weil declared.

## Canadian Dental Schools

### UNIVERSITY OF BRITISH COLUMBIA

*Two New Appointments Announced.*—D. J. Yeo of Vancouver, director of dental health services for the Metropolitan Health Committee of Vancouver, has been named head of the Department of Public and Community Dental Health in the University of British Columbia's Faculty of Dentistry.

This was one of two senior appointments to the dental faculty announced recently by university president J. B. Macdonald.

The president also announced that J. D. Spouge of the Faculty of Dentistry, University of Manitoba, would join the Department of Oral Biology at the University of British Columbia.

Both Dr. Yeo and Dr. Spouge will take up their appointments on July 1 next year as associate professors.

A 1951 graduate of the Faculty of Dentistry, University of Toronto, Dr. Yeo took public health training at the University of Michigan which awarded him the degree of master of public health in 1953. Dr. Yeo was dental director for the Cariboo health unit in Prince George in 1951 and 1952. From 1953 to 1955 he was regional dental consultant for the Fraser Valley. He became director of dental health services for Metropolitan Vancouver in 1956. Dr. Yeo has been closely associated with the British Columbia Dental Association as a director, and as chairman of the Public Relations and Fluoridation Committees. He has also acted as dental consultant for the Junior Red Cross, the Children's Aid Society, and was

a member of the dental staff of the Children's Hospital.

Dr. Spouge is a native of England. He was educated at the University of Sheffield, where he received the degrees of bachelor and master of dental surgery. He also holds a conjoint medical qualification of the Royal Colleges of Physicians and Surgeons, England.

### UNIVERSITY OF TORONTO

*G. C. Hare Visits Australia and Far East.*—G. C. Hare, associate professor of operative dentistry (endodontics) at Toronto's Faculty of Dentistry, gave six postgraduate courses in Australia during May and June of this year. Dr. Hare also addressed dental groups and students in New Zealand, Singapore and Bangkok.

*Staff Members Participate in Orthodontic Meeting.*—F. B. Ross, D. G. Woodside and R. O. Fisk were staff members who participated in the annual meeting of the Great Lakes Society of Orthodontists held in Toronto, October 6-9. Dr. Ross presented a television clinic on the cleft palate program of the Toronto Hospital for Sick Children. Dr. Woodside's topic was "Inter-occlusal clearance in orthodontic treatment planning." Nearly 300 visiting orthodontists toured the University of Toronto's dental building where one of the scientific sessions was held on Tuesday, October 8.

*Full-Time Appointment for J. Kreutzer.*—A former part-time professor of preventive dentistry and head of the department, J. Kreutzer, assumed full-time status on July 1. Dr. Kreutzer will be concerned with expansion of the clinical aspects of preventive dentistry instruction. A primary goal is to integrate basic science teaching in preventive dentistry with clinical practice in order to demonstrate to students the practicability of reducing oral disease and encourage the provision of preventive services in private practice.

*Over 600 Registered This Session.*—Six hundred and eleven undergraduate dental students, dental hygiene students, and students in postgraduate and graduate courses are registered in the Faculty of Dentistry during session 1963-64. This compares with 721 in session 1962-63, which included a preprofessional class of 125.

The breakdown of registration is as follows: preprofessional year 0, first dental year 127, second dental year 117, third dental year 118, fourth dental year 120, special students 1, making a total of 483 dental

students. There are 49 and 45 students respectively in first year and second year dental hygiene classes. Postgraduate and graduate enrolments are: diploma courses 20, bachelor of science in dentistry 3, master of science in dentistry 4, and occasional students 7.

*Study Use of Chairside Assistants.* — The Faculty of Dentistry has initiated an experimental study concerned with the training of undergraduate dental students in the utilization of chairside assistants. In charge of the study is C. E. Purdy, formerly Commandant of the Royal Canadian Dental Corps School at Camp Borden, Ontario, who retired from the Corps during the summer.

The aim of the study is to determine: (1) the feasibility of including such a training program for undergraduates in this Faculty, (2) the most effective method of conducting such a program, (3) the scope and duration of the training, (4) at what stage in the student's career the instruction should be initiated, (5) physical and personnel requirements, (6) required alterations to the curriculum, (7) the influence on the quality and quantity of the student's work and clinical requirements, and (8) the attitude on the part of the student toward employment of an assistant when he enters practice.

## MCGILL UNIVERSITY

*Staff Changes.*—A well-known Montreal periodontist, P. J. Gitnick, has been appointed chairman of the Department of Periodontics at McGill's Faculty of Dentistry. Dr. Gitnick succeeds W. F. Walford who retired at the end of the 1962-63 academic year.

Joan DeVries, bacteriologist to the Montreal General Hospital, has been appointed lecturer in the Department of Dental Pharmacology and Therapeutics.

## Public Health

### YEO NAMED TO U.B.C. DENTAL FACULTY

At the October meeting of the Vancouver and District Dental Society Dean S. Wah Leung announced the appointment of D. J. Yeo as head of the Department of Dental Public Health in the new Faculty of

Dentistry. Further details appear in this issue of the Journal under "Canadian Dental Schools."

## HOME FLUORIDATOR FIRM BANKRUPT

Dominion Fluoridators Limited, manufacturer of home fluoridation units, has declared itself bankrupt. The company, which manufactured during the past ten years in Toronto and Vancouver, sold the unit for attaching to taps.

William Doupe, 63, founder of the firm and a majority shareholder, attributed the bankruptcy to overpricing, lack of promotion and municipal water fluoridation. The unit which wholesaled for \$15, he said, was retailed by franchise holders who tried to get as much as \$295 for it. About 4,000 units were made but a considerable number are still in the company's inventory. The firm stopped manufacturing about a year ago. The device was not approved by dental organizations.

## DENTAL HEALTH DAY MARCH 11

National Dental Health Day is to be observed March 11, 1964, as part of the annual National Health Week sponsored by the Health League of Canada. Although some provinces hold dental health day or week at other times, the League sets aside one day of its health week for emphasis on dental health publicity across the country.

## Royal Canadian Dental Corps

### BRIG. BAIRD TOURS ONTARIO CLINICS

Brigadier K. M. Baird, Director General of Dental Services, accompanied by Colonel A. T. Roger, Commanding Officer of No. 13 Dental Company, recently visited dental clinics at Trenton, Kingston, Toronto, Oakville and London.

### WINNIPEG OFFICER ON STAFF AT UNIVERSITY OF MANITOBA

Lt.-Col. L. A. Richardson has resumed his duties as instructional assistant in the Department of Prosthodontology, Faculty of

Dentistry, University of Manitoba. This part-time employment was initiated last year and provides most useful experience for officers of the Corps.

### NINE DENTAL OFFICERS TRANSFERRED

The following movement of dental officers has taken place recently: Maj. P. L. Falkner to H.M.C.S. Stadacona from R.C.A.F. Station Downsview; Maj. J. J. Walker to Currie Barracks, Calgary, from R.C.A.F. Station Cold Lake; Capt. F. C. Arpin to No. 4 Field Dental Company, Germany, from Longue Pointe, P. Quebec; Capt. D. S. Campbell to R.C.A.F. Station Summerside from Canadian Forces Hospital, Halifax; Capt. A. G. Garden to R.C.A.F. Station Penhold from Currie Barracks, Calgary; Capt. I. M. Hamilton to H.M.C.S. Bonaventure from H.M.C.S. Shearwater; Capt. V. D. Kvedaras to R.C.A.F. Station North Bay from R.C.A.F. Station Clinton; Capt. J. J. Mitchinson to R.C.A.F. Station Downsview from R.C.A.F. Station North Bay; and Capt. R. T. Mori to R.C.A.F. Station Winnipeg from R.C.A.F. Station Trenton.

### PREDICT EXPANDING ROLE FOR AUXILIARY PERSONNEL

The expanding role of auxiliary personnel in the Royal Canadian Dental Corps was the main topic at a graduation dinner held November 9 by the Ottawa Dental Nurses' and Assistants' Association. Lt.-Col. D. H. Hillier, dental public health officer at the Directorate of Dental Services, was guest speaker.

### SHORT SERVICE OFFICERS RELEASED

Good wishes for the future are extended to the following junior officers who have recently been released from the Corps: Capt. S. M. Claman, Capt. P. J. J. Coulombe, Capt. J. T. Marshall, and Capt. A. J. J. C. Vachon.

### FORMER OFFICER POSTED TO HALIFAX

Capt. L. Dombowsky, a 1954 graduate of the University of Alberta who took his release in September 1960, has rejoined the Corps and is currently serving at H.M.C. Dockyard, Halifax.

### additions to the library

BLASS, J. L. Dentistry as personal service. Philadelphia, Lippincott, 1963. 153 p. illus. \$7.00

BREDOW, M. Handbook of the medical secretary. Ed. 4. Toronto, McGraw-Hill, 1963. 378 p. illus. \$3.20

BUSH, J. B. and SCHWAZROCK, S. P. Workbook for effective dental assisting. Dubuque, Iowa, Wm. C. Brown Co. Inc., 1960. 144 p. illus. \$2.75

GRANT, D., STERN, I. B. and EVERETT, F. G. Orban's periodontics; a concept—theory and practice. Ed. 2. St. Louis, Mosby, 1963. 595 p. illus. \$16.75

HUMPHREY, J. H., and WHITE, R. G.

Immunology for students of medicine. Oxford, Blackwell Scientific Publications, 1963. 450 p. illus. \$10.00

LEVISON, H. Textbook of dental nurses. Ed. 2. Oxford, Blackwell Scientific Publications. 152 p. illus. \$3.75

PEDERSON, M. C. How to plan retirement now. (Practical Dental Monographs, September 1963.) 32 p.

U. S. DENTAL MISSION TO THE SOVIET UNION. Report of the United States Dental Exchange Mission to the Union of Soviet Socialist Republics (U.S.S.R.) June 3 to June 25, 1961. Chicago, American Dental Association, 1963. 96 p. illus.



## announcements

### CANADIAN DENTAL ASSOCIATION

|      |             |                |
|------|-------------|----------------|
| 1964 | Edmonton    | June 28-July 1 |
| 1965 | Quebec City | May 30-June 2  |
| 1966 | Halifax     | June 12-15     |
| 1967 | Toronto     | May 14-17      |

### FÉDÉRATION DENTAIRE INTERNATIONALE

|               |                |
|---------------|----------------|
| San Francisco | November 9-12  |
| Vienna        | June 26-July 3 |
| Israel        |                |
| Paris         |                |

### FUTURE EVENTS

| Date             | Function                                   | Location                                       | Officer               | Address                                                      |
|------------------|--------------------------------------------|------------------------------------------------|-----------------------|--------------------------------------------------------------|
| Dec. 26-27, 1963 | Amer. Assn. Advmt. Science, Dental Section | Cleveland, Ohio                                | Dr. S. J. Kreshover   | National Institute of Dental Research, Bethesda 14, Maryland |
| Jan. 20-22, 1964 | Manitoba Mid-Winter Dental Meeting         | Royal Alexandra Hotel, Winnipeg                | Dr. W. G. Campbell    | 308 Kennedy Street, Winnipeg 2, Man.                         |
| Feb. 1-8, 1964   | Third Caribbean Dental Convention          | Trinidad Hilton Hotel, Port-of-Spain, Trinidad | Dr. A. V. Awon        | 43-45 Frederick Street, Port-of-Spain, Trinidad              |
| Mar. 1-7, 1964   | First Ibero-American Endodontic Congress   | National University, Mexico City               | Dr. F. Romero Castany | Calle Hamburgo 250, México 6, D.F., Mexico.                  |
| Mar. 21-31, 1964 | Fourth Asian-Pacific Dental Congress       | Singapore and Malaya                           | Dr. B. B. Erana       | P.O. Box 373, Manila, Philippines                            |

### POSTGRADUATE AND REFRESHER COURSES

**TORONTO**—The Department of Orthodontics, Faculty of Dentistry, University of Toronto offers a postgraduate course in **ORTHODONTICS**, March 2-6, 1964. This course for the general practitioner will comprise a review of the anatomical structure and development of the head and jaws, normal occlusion and the aetiology of malocclusion. Modern methods for the interception of malocclusion will be emphasized. Laboratory and clinical periods will permit the construction and manipulation of appliances as well as patient examination. The course will be directed by D. G. Woodside. Tuition fee \$100. Enquiries and requests for application forms should be directed to the Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

**MCGILL**—The McGill-Hospitals Dental Internship Committee awards five junior rotating dental internships beginning July 1 each year. Experience in the dental departments of the Montreal General Hospital, the Royal Victoria Hospital and the Montreal Children's Hospital is offered. Enquiries should be directed to the Dean, Faculty of Dentistry, McGill University, Montreal 2, P. Quebec.

**COLUMBIA**—February 24-29, 1964—Edgewise Appliance Therapy

**MICHIGAN**—February 10-12, 1964—Elastic Impression Materials

**MICHIGAN**—February 10-21, 1964—Guiding Occlusal Development

**MICHIGAN**—February 26-28, 1964—Clinical Dental Hygiene (for Dental Hygienists)

**NORTHWESTERN**—February 24-26, 1964—Applications of Cephalometrics to Dentistry

**NORTHWESTERN**—February 24-28, 1964—Major Oral Surgery

**OHIO**—February 17-21, 1964—Complete Denture Prosthodontics

**OHIO**—February 24-28, 1964—Removable Partial Dentures

**TEMPLE**—February 10-14, 1964—Periodontal Prosthesis

**TEMPLE**—February 15, 1964—Advanced Course in Practice Administration

**WESTERN RESERVE**—February 14-15, 1964—Oral Surgery

**Note** • Due to lack of space the Journal cannot accommodate all announcements of foreign dental meetings and postgraduate and refresher courses. Readers are invited to write to C.D.A. headquarters for information concerning unlisted meetings and courses. Further information concerning listed meetings and courses should be sought from the sponsoring institution.

*L'Association Dentaire Canadienne*

Volume 29

Numéro 12

décembre 1963

JOURNAL

*The Canadian Dental Association*

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## **La simplification du travail en chirurgie dentaire**

*par Marcel Hébert,\* D.D.S., Montréal, P.Qué.*

La conduite d'un être humain est habituellement motivée, nous disent les psychologues, consciemment ou inconsciemment.<sup>1</sup> Nous devons être en mesure de pouvoir expliquer brièvement et clairement à nos patients les raisons qui ont motivé nos changements. Ils doivent comprendre l'importance de la facilité de travail que nos appareils nous procurent, et l'intérêt que nous portons à leur bien-être général et particulier (dentaire).

Les psychanalystes nous expliquent l'importance de la bouche au point de vue

émotionnel. Depuis la naissance, la bouche sert de moyen de communication entre l'individu et le reste du monde. Un enfant assouvit son premier désir par la bouche: la faim. Il prend connaissance de ses jouets encore par la bouche, etc. La bouche joue un rôle très important durant toute la vie: manger, boire, parler, chanter, embrasser, etc. Il est donc logique que le patient voit venir avec une certaine appréhension les interventions dentaires qui risquent, à ses yeux, de porter atteinte à l'intégrité d'un organe aussi important. Pour une personne grégaire, un dommage à la bouche peut lui donner l'impression qu'elle sera plus isolée du monde, de ses amis. La bouche est aussi

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\*Chargé des cours en histoire de l'art dentaire à l'Université McGill, Montréal. Conférence prononcée à la Société de Stomatologie, Québec, en février 1963.

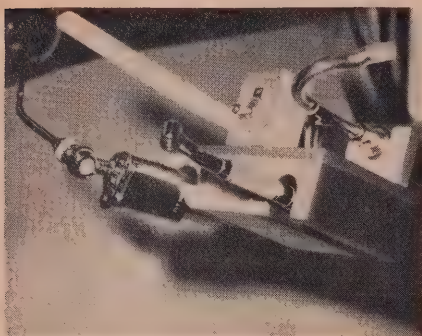


FIGURE 1 Détails du porte-seringue. Rangée supérieure: aspirateur pour l'assistante, bouton de contrôle pour la succion rapide, pompe à salive (reliée à la succion rapide). Rangée inférieure: seringue combinée genre triplex pour air, eau et spray (douche), et aerotor. L'on peut ajouter ou retrancher ce que l'on veut sur ce porte-seringue du type Chayes. Il monte, descend et peut être poussé de gauche à droite, au gré de l'opérateur.

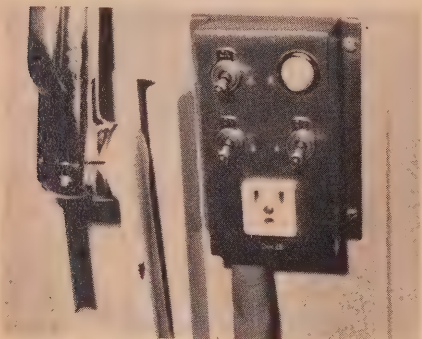


FIGURE 2 Boutons de contrôle sur le dos de la chaise pour la lampe, succion rapide, appel de l'assistante, prise de courant pour cautère, etc.

un instrument d'agression, ce qui s'exprime en mordant et en crachant. L'interruption de cette fonction peut être néfaste à une personne agressive.

Parfois les radiographies rappellent la mort à une personne non avertie.<sup>2</sup> C'est pourquoi nous suggérons que ces films soient placés en arrière du patient, sur le cabinet mobile, par exemple.

L'équipement doit être fait pour l'homme, et non l'homme pour l'équipe-

ment.<sup>3</sup> Nos appareils doivent nous fournir la facilité et l'efficacité que nous recherchons, et non servir de substituts aux valeurs humaines.

La bonne planification doit nous faire éviter certains mouvements considérés comme fatiguants: prendre un objet à bout de bras, se pencher, se tourner.<sup>4</sup> Mais il ne faut pas oublier aussi qu'une grande inactivité peut être néfaste à l'opérateur en augmentant sa tension nerveuse. Il faut savoir analyser ses besoins, les organiser et les mettre en pratique.

Passons maintenant à quelques considérations générales sur la simplification du travail, pour étudier ensuite comment améliorer une méthode de travail, suivie de quelques idées sur les changements à apporter à l'équipement. Nous terminerons par l'exposé d'une solution pratique.

#### CONSIDÉRATIONS GÉNÉRALES SUR LA SIMPLIFICATION DU TRAVAIL<sup>5</sup>

1. Les médicaments pour toutes les procédures sont logés dans un petit cabinet mobile situé à l'arrière du patient en un endroit qui est facilement accessible au dentiste ou à son assistante. Les ciments, silicates et autres matériels nécessaires aux obturations sont aussi gardés dans ce cabinet.

2. Un support ajustable (Chayes, Weber) sur lequel on trouve la pompe à salive, turbine, pièce à main, et seringue combinée air et eau doit être à la portée du dentiste, de telle sorte qu'il puisse choisir n'importe lequel de ces instruments sans avoir à changer la position de son corps ou à faire de longs mouvements de bras (Figure 1).

3. Tous les contrôles (pour les mains et les pieds) doivent être groupés à l'arrière de la chaise (Figure 2).

4. Une grande variété de porte-empreintes doit être accessible directement à l'arrière de la chaise sur un panneau ou dans une armoire. Le matériel à impression peut être préparé sur le cabaret cervical.

5. La circulation du bureau doit être agencée de façon à ce que le patient puisse se rendre au fauteuil sans déranger le dentiste ou son assistante.

6. Les radiographies du patient doivent être visibles en arrière de la tête du patient, de sorte que le dentiste peut les examiner avec un minimum de mouvement de tête ou de corps. Les contrôles de l'appareil à radiographie doivent être en dehors du bureau pour la protection du personnel.

7. Les seringues combinées air-eau (Hanau, Weber, Mid-West) diminuent aussi les mouvements non nécessaires.

8. Les cabarets pour une même opération doivent être de la même couleur.

9. L'usage de plusieurs pièces à main à très haute vitesse est un avantage, de sorte qu'il n'y a pas de temps de perdu à changer les foreuses. L'Aerotor combiné d'un jet d'air est aussi une commodité. (Mid-West, Page-Chayes 909).

10. Tous les instruments stérilisables d'un même plateau doivent être confinés dans une même section du stérilisateur. Il est plus facile de les remettre ensemble dans leur plateau respectif.

#### COMMENT AMÉLIORER UNE MÉTHODE DE TRAVAIL

Une approche systématique nous aidera à faire plus de travail et un travail de meilleure qualité en moins de temps et avec moins d'efforts, en faisant un meilleur usage des matériaux, des instruments et de l'équipement nécessaires à l'accomplissement de l'opération.<sup>6</sup>

Il faut constamment garder à l'esprit trois principes fondamentaux: élimination, modification, efficacité.

Comme point de départ, nous devons d'abord: (1) choisir l'opération à améliorer, (2) énumérer chaque détail de l'opération à améliorer, (3) étudier chaque détail, (4) développer une nouvelle méthode, (5) appliquer cette méthode.

En choisissant une opération, il ne faut pas oublier qu'elle se compose de trois sections distinctes et qui se fondent

l'une dans l'autre: (1) la préparation (disposer les instruments nécessaires), (2) l'accomplissement (l'opération elle-même), (3) le ménage (période de nettoyage nécessaire après le travail).

L'étude et l'énumération des détails d'un travail se fait à l'aide d'un "process chart." Dans cette étude, nous devons nous demander:

Pourquoi faisons-nous tel geste plutôt qu'un autre?

Pourquoi faisons-nous ce geste à ce moment-là?

Pourrions-nous le faire à un autre moment pour rendre le travail plus efficace?

Qui le fait? Le dentiste ou l'assistante?

Un autre pourrait-il le faire?

Comment est-ce fait? Pourrait-il être fait autrement?

Cet examen doit être sérieux, chercher des faits, non des opinions; des raisons, non des excuses.

Bref, en développant une nouvelle méthode, n'oublions jamais nos trois principes fondamentaux. Pour rendre une opération plus efficace, nous devons simplifier le travail lui-même. Il faut évidemment aussi accorder une importance rationnelle aux facteurs techniques, humains et économiques. Un changement de méthode engendre deux réactions: résistance au changement et ressentiment de la critique.

Pour résumer ce qui précède: il nous faut observer avec un esprit ouvert en ayant toujours le mot "pourquoi" présent à l'esprit, consulter des collègues et examiner le travail sous tous ses angles. Il faut penser, décider et agir. Une meilleure productivité avec moins de fatigue sera la conséquence logique d'une étude sérieuse sur la simplification du travail en art dentaire.

#### CONSIDÉRATIONS SUR L'ÉQUIPEMENT<sup>6</sup>

*Le fauteuil dentaire.* — Sans entrer dans l'appréciation des nouveaux fauteuils "contours" qui sont en pleine période d'évolution, passons en revue certains facteurs qui peuvent nous aider. Le



fauteuil dentaire est un appareil dont le but est de tenir le patient confortablement en place afin de permettre au dentiste d'accomplir son travail confortablement lui aussi. Il faut se donner la peine de l'étudier afin d'en prendre pleinement avantage, car il répond à de multiples ajustements. Le support à pieds et les bras sont adéquats, mais le dossier est souvent trop court; il y a certaines parties du dos qui ne sont pas supportées. Il monte et descend facilement; il monte même plus haut que nécessaire et ne descend pas assez bas pour le dentiste qui travaille assis. Ceci est un facteur très important dans le choix d'un fauteuil. Il y a aussi plusieurs projections dans le dossier qui nuisent aux genoux du dentiste qui travaille assis et qui l'empêchent de s'approcher du fauteuil autant qu'il

le désire. Le patient peut en entrer et en sortir assez facilement, ce qui ne peut pas se dire sans réserve pour certaines chaises "contours". Le psychologue, le physiothérapeute et l'ingénieur s'accordent pour dire que l'appui-pieds et les bras sont nécessaires.

*L'unité dentaire.* — C'est un appareil qui sert surtout à grouper les instruments nécessaires au diagnostic et à la dentisterie opératoire. Regardons froidement cet appareil: Qui s'en sert le plus? Que doit-il contenir? Comment doit-il être fait: pour l'esthétique ou la fonction? Doit-il être fixe ou mobile?

L'unité dentaire conventionnelle ne permet pas le maximum d'accessibilité à ses instruments au point de vue de simplification de travail et ne remplit pas ses



FIGURE 3 Le plateau cervical est placé en arrière de la tête du patient. Le dentiste examine la bouche et installe la pompe à salive à succion rapide. Il a le coude gauche confortablement appuyé sur le plateau. A noter l'entonnoir (vacuum cup) qui remplace le crachoir traditionnel. Cette position du plateau est aussi excellente lorsqu'une assistante est toujours présente pour l'anesthésie locale et la chirurgie, les instruments étant hors du champ visuel du patient.



FIGURE 4 Le plateau en position pour la dentisterie opératoire sans assistante permanente. Le dentiste rince son miroir dans le "mirror dip" (rince-miroir) et s'apprête à commencer son travail avec la pièce à main rapide ou aerotor. A noter la position différente du porte-seringue et la position de la pompe à salive.

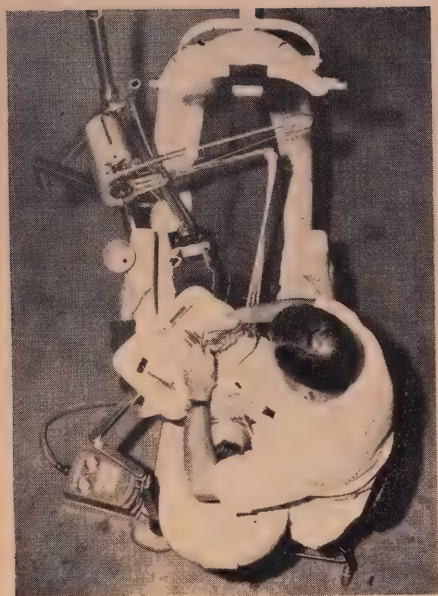


FIGURE 5 Le dentiste change la foreuse (cutting tool). Ses bras ont à peine remué. Sa main gauche est solidement appuyée sur le plateau. Il travaille toujours en contournant la tête du patient.

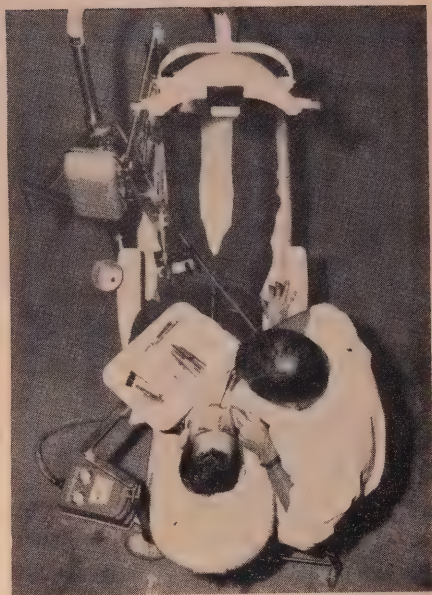


FIGURE 6 Le fraisage est fini. Le dentiste lave le champ opératoire et l'assèche à l'aide de la même seringue (Hanau, Weber, Mid-West, etc.), d'où réduction de mouvements. A noter que la pièce à main a été repoussée.

soi-disant fonctions esthétiques et psychologiques.<sup>6</sup> L'architecte du groupe déclare que l'unité dentaire conventionnelle est construite par la tradition, bon pour un comptoir d'antiquités et ne tient pas compte des "basic work patterns."

Les éléments essentiels de l'unité sont: air chaud, eau chaude, crachoir à hauteur ajustable, pièces à main conventionnelle et à haute vitesse variable, tablette ou plateau cervical à hauteur ajustable et assez mobile pour que l'opérateur n'ait pas à se tourner pour s'en servir. Notons en passant qu'un crachoir traditionnel avec une chaise contour n'est pas un mariage idéal.

Plusieurs patients ont commenté favorablement sur l'absence de l'unité: "Je suis bien heureux de ne plus faire face à ce monstre d'acier qui semble prêt à m'envelopper avec ses deux bras (crachoir et tablette ronde)."

Demandons-nous comment nous pouvons éliminer, modifier et rendre plus efficace cette pièce essentielle de notre cabinet.

L'unité devrait monter ou descendre, s'approcher ou s'éloigner afin d'augmenter son efficacité. Est-ce un appareil efficace ou est-ce un appareil qui peut servir efficacement tel ou tel dentiste? Il y a là une énorme différence et un dentiste devrait pouvoir répondre à cette question avant de prendre une décision. Résumons:

1. Il devrait être mobile, monter ou descendre avec la chaise.
2. Les parties essentielles (seringues, etc.) devraient être plus accessibles.
3. La succion rapide devrait en faire partie intégrante.
4. Certaines parties (seringues) devraient être en double pour le dentiste et l'assistant.
5. La tablette ronde traditionnelle



devrait être modifiée pour être plus mobile.

6. L'usage du crachoir devrait être minimisé ou diminué.

Considérons maintenant une solution pratique pour l'unité dentaire qui se divise en trois parties: le plateau cervical, le porte-seringue, les pièces à main jumelées.

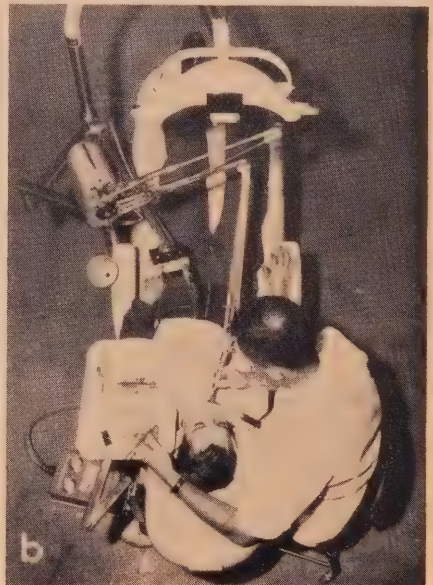
(a) *Le plateau cervical* (Chayes Cervical Tray).—Ce plateau cervical s'inspire de la tablette ronde placée en face du fauteuil, mais il n'a pas sa rigidité; il se prête à plusieurs accommodements; il est souple et flexible. Ce plateau a plusieurs avantages et il est plus complet que d'autres du même genre qui sont proposés à la profession. En voici une description:

Une pièce coulée en fonte est fixée au cylindre qui fait monter le fauteuil. A

cette pièce coulée est fixée, à environ huit pouces du plancher, une barre horizontale de trois pieds de long. Placée à ce niveau, cette barre ne gêne nullement le mouvement des pieds, le contrôle des manettes au plancher et le déplacement du tabouret opératoire. Cette barre devient verticale et peut être allongée ou raccourcie grâce à un système de télescope. Il y a, au bout de cette barre verticale, deux ou trois petits bras horizontaux qui tournent dans toutes les directions; à ces petits bras est fixé un plateau qui jouit d'une grande mobilité. Ce plateau peut tourner autour de la tête du patient à la hauteur désirée, de préférence à la hauteur du cou. On peut contrôler la hauteur du plateau de deux manières:

1. Le plateau suit le fauteuil; il monte ou descend avec lui; il pivote avec le fauteuil; mais il demeure horizontal, si

FIGURE 7 (a) Le plateau est en face du patient, sous son menton, pour l'insertion de l'amalgame ou du ciment, etc., position qui est très commode. A noter ici que le plateau est toujours très près du champ opératoire; il est dans le champ de vision périphérique du dentiste. Celui-ci, après entraînement, peut distinguer et prendre ses instruments sur le plateau sans quitter des yeux le champ opératoire. (b) Autre position du plateau qui permet au patient de garder l'entonnoir (vacuum cup) sur lui, s'il est obligé de cracher souvent.



le fauteuil bascule.

2. En serrant le levier de la barre verticale, le plateau peut monter ou descendre indépendamment du fauteuil. En lâchant le levier, il se fixe en place, à sa hauteur normale. Une seule main peut effectuer le changement. Le plateau, selon le choix du dentiste, peut être en acier ou en fibre de verre colorée. L'assistante dépose sur ce plateau de base un autre plateau de la même grandeur qui renferme les instruments nécessaires à l'opération.

Façon d'utiliser le plateau cervical sans assistante:

1. Le patient s'assoit, la tête s'ajuste.

2. Le plateau préparé à l'avance est placé sur le support, en arrière du patient (Figure 3).

3. Le dentiste vérifie le travail à faire et donne l'anesthésie.

4. Pendant l'induction anesthésique, les fraises sont choisies et installées sur leurs places à main respectives.

5. Le plateau cervical est à gauche, en avant du patient (Figures 4,6).

Le dentiste s'assoit, complète l'ablation de la carie en se servant, si nécessaire, de "rince-miroir." Ces opérations peuvent se faire sans quitter des yeux le champ opératoire, car le plateau est dans le champ visuel du dentiste; de même, celui-ci peut, sans se déplacer, prendre les curettes et les ciseaux dont il a besoin (des instruments colorés se distinguent plus facilement). Le dentiste peut toutefois, pour reposer ses yeux, cesser un moment de fixer le champ opératoire. Faut-il changer une fraise? Cette opération s'effectue sans varier la position tout simplement en contournant la tête du patient (Figure 5).

6. La succion fonctionne constamment et élimine la nécessité de cracher.

7. A la fin du fraisage, le patient peut rincer sa bouche. Le plateau cervical est maintenant placé en avant de lui, sous son menton. Il ne peut le voir. Dans cette position, le plateau constitue une plateforme idéale pour y déposer le matériel obturateur (Figure 7a); il est toujours dans le champ visuel du dentiste qui s'en

sert avec le minimum de mouvements de la tête et du corps.

8. Le plateau est poussé à l'arrière du patient, quand les obturations sont terminées.

Si le dentiste travaille avec une assistante, le plateau est placé à l'arrière ou en avant du patient et il est alors très commode pour le dentiste et pour l'assistante.

Le plateau cervical fixé au fauteuil rend de grands services et il est plus souple qu'un cabinet mobile, une table Mayo ou une tablette ronde placée face au fauteuil. Il épargne du temps et des mouvements en plaçant l'armement nécessaire à la portée du dentiste et de son assistante.

(b) *Le porte-seringue.* — L'utilisation d'un porte-seringue joue un rôle important dans un programme destiné à simplifier le travail du dentiste.

La tige qui soutient le porte-seringue est télescopable: elle peut s'allonger ou se rétrécir selon qu'on la tire ou qu'on la repousse. Cette tige, grâce à un adaptateur, se visse au support horizontal qui retient la tablette de porcelaine d'une unité conventionnelle ou au poteau vertical d'une unité spéciale conçue pour simplifier le travail. Au bout de ce bras, se trouve un panneau auquel sont vissés des adaptateurs qui servent de réceptacles aux instruments ordinaires: turbine, pompe à salive, seringue air-eau, etc. Ce support a plusieurs avantages:

1. Il s'ajuste à la hauteur désirée; il peut s'élever ou s'abaisser, au gré de l'opérateur, selon qu'il travaille debout ou assis.

2. La distance qui sépare ce support du dentiste peut varier. Il peut être rapproché ou éloigné et évite aussi un grand nombre de gestes inutiles.

3. Il peut se pousser à gauche ou à droite; le panneau pivote sur lui-même à gauche ou à droite: il est donc d'une grande versatilité.

4. Le support peut se placer complètement à la gauche du fauteuil, si le dentiste y exécute tout son travail avec l'aide



d'une assistante; le support est alors à l'entière disposition de l'assistante.

La seringue combinée à l'eau et à l'air rend de grands services. Elle peut paraître assez grosse, à première vue, et sembler se manipuler difficilement. Mais sa commodité fait rapidement oublier son volume, car elle combine en un instrument l'eau, l'air et la vapeur. Une cavité peut être lavée et essuyée au cours d'une seule opération.

La turbine est placée sur le même panneau, tout près du champ opératoire. Ce support peut être très utile au dentiste qui travaille seul; il peut y déposer la pièce à main, prendre la seringue, la remettre en place et reprendre la pièce à main, le tout d'un seul mouvement. Le support illustré ici (Figure 1) est agencé pour un opérateur seul. La succion chirurgicale peut aussi s'installer au dossier du fauteuil.

Le commutateur central contrôle la succion rapide; il peut aussi être fixé au dossier du fauteuil sur un panneau de contrôle (Figure 2). Lorsque le dentiste se sert de la pompe à succion, il en active, du même coup, le moteur. Le dentiste, s'il désire une pièce à main ou une autre turbine pour la chirurgie, peut en faire installer sur le panneau.

Cet agencement rend de précieux services au dentiste, car il met à sa portée certains instruments dont lui-même et son assistante se servent continuellement. Ce support élimine des mouvements et rend le travail plus efficace et plus confortable.

(c) *Pièces à main jumellées* (Chayes Twin 909 ultraspeed contra-angle handpiece).— Le travail peut se simplifier énormément par une seconde pièce à main à ultra grande vitesse; cette seconde pièce à main est presque essentielle pour faciliter les opérations du dentiste.

La pièce à main recommandée complémente l'Aérotor, car elle est munie d'une poulie et elle est à vitesse variable. Elle possède aussi un pouvoir constant (constant torque) et un système excellent pour arroser la dent. L'opérateur, avec

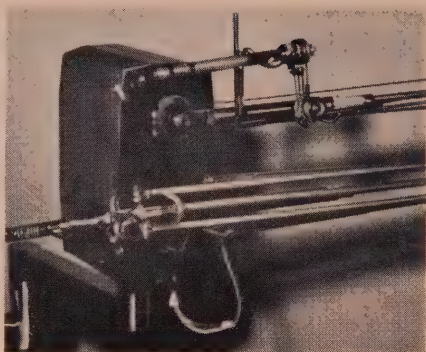
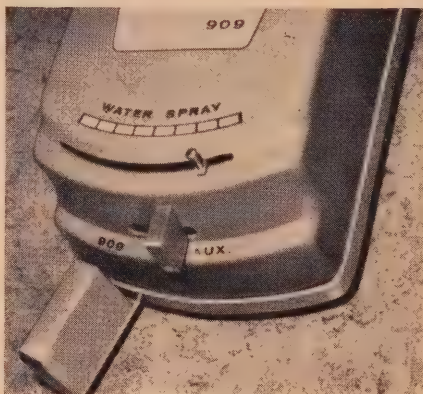


FIGURE 8 Les moteurs jumelés: le bras supérieur est relié au moteur à vitesse standard; le bras inférieur, au contre-angle à grande vitesse variable de 1,500 à 180,000 rpm.

cet appareil, a toujours la sensation de toucher la dent et ressent les changements de structures quand il passe de l'émail à la dentine. Cette sensation rappelle le temps où tout le travail s'exécutait à une vitesse lente.

Cette pièce à main a une vitesse qui oscille entre 1,500 et 180,000 rotations par minute et elle garde à un rythme constant la vitesse que le dentiste a choisie.<sup>7</sup> Elle possède un autre avantage: elle

FIGURE 9 Boîte de contrôle à pied pour les deux moteurs et pour la force de la douche (spray). Cette boîte contient aussi les cadrans indicateurs de pression pour l'eau et l'air.



dispose, au lieu d'un jet d'eau ou d'un double jet d'eau, d'un système d'arrosage (spray) qui refroidit et lave très efficacement le champ opératoire. Cela a pour effet de diminuer énormément la quantité d'eau dans la bouche du patient et de cette façon facilite davantage le travail du dentiste.

La combinaison d'un moteur à vitesse standard variant de 0 à 25,000 rpm avec un autre à ultra grande vitesse constitue la solution à peu près idéale pour exécuter avec facilité tous les genres de travaux (Figure 8).

Les trois pièces à main unissent leurs disponibilités pour créer une gamme presque infinie d'opérations diverses et une variété de choix dans les vitesses et le toucher. Une turbine additionnelle peut se monter facilement sur le porteseringue.

#### CONCLUSION

Le but de ces suggestions et des changements qu'elles proposent est d'augmenter l'efficacité des opérations du dentiste. L'épargne du temps doit être l'objet de considérations secondaires quand il s'agit de soigner un être humain. Néanmoins, l'agencement rationnel des opérations du dentiste a une influence non seulement sur la rapidité avec laquelle il exécute son travail, mais il a aussi un effet salutaire sur la tension nerveuse du patient et de l'opérateur. Une disposition adéquate des instruments et la souplesse de l'équipement rendent plus plaisantes et plus faciles les opérations du dentiste; elles favorisent aussi une meilleure disposition psychique du patient.

Nous avons puisé abondamment dans les idées et suggestions émises en 1959 lors du Workshop sur la simplification du travail de l'Université Western Reserve. Nous avons trouvé une satisfaction personnelle autant du point de vue de stimulation intellectuelle que des points de vues de productivité et de confort. La "Conference on Dental Curriculum," décembre 1961, de l'Université du Kentucky, avait aussi des suggestions que les manufacturiers étudient et mettent en

pratique. Ils font des efforts considérables dans ce sens, car ils savent les dentistes très intéressés. Il faut continuer, car ceci n'est sans doute que le commencement d'une nouvelle ère de progrès.

#### SUMMARY

*The author discusses methods of achieving work simplification in dental practice. Among the measures recommended are these: (1) medicaments, filling materials, impression trays and impression materials should be located to the rear of the dental chair; (2) saliva ejector, air turbine handpiece and air-water syringes should be mounted on a mobile, adjustable stand; (3) all hand and foot controls (except for x-ray machines) should be located behind the dental chair; (4) the traffic pattern should permit seating of the patient without disturbing the dentist or the dental assistant; (5) the film viewer should be located to the rear of the patient; (6) x-ray machine controls should be installed outside the operating room; (7) colour-coded instrument trays for specific operations should be prepared in advance. The use of multiple handpieces is a distinct advantage.*

*Discussing the requirements of dental chairs and dental units, the author observes that the design of conventional units is dictated by tradition rather than by the basic work patterns of the modern dentist. The ideal dental unit should (1) be mobile and capable of being raised or lowered with the dental chair; (2) have accessible instruments such as air-water syringes; (3) possess an efficient system of rapid suction; and (4) possess duplicate syringes, etc. for the dentist and dental assistant. The traditional circular bracket table is replaced by an adjustable cervical tray. A suction system eliminates the need for a cuspidor. Duplicate handpieces, preferably a Page Chayes 909 ultra speed contra-angle handpiece to supplement an air turbine handpiece, are mounted on a mobile, adjustable syringe stand.*

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## Les femmes-dentistes du Québec

par Paul-E. Poitras, D.D.S.,  
Montréal, P. Qué.

Avant mars 1869, les personnes qui ne voulaient pas d'un forgeron, d'un charlatan pour diagnostiquer une dent malade, dont l'avulsion serait trouvée nécessaire, allaient consulter un chirurgien dentiste: substantif utilisé par Pierre Fauchard, père de la chirurgie dentaire moderne, au XVIII<sup>e</sup> siècle, lorsqu'il devait désigner ses confrères, alors que les mots: soit dentateur, soit expert pour les dents, soit arracheur de dents, oubliés en France, étaient d'un usage courant chez les vieilles gens du Québec.

Les membres de la Société d'Odontologie de la province de Québec, dans le but d'améliorer la vie artisanale du dentiste, demandaient au lieutenant-gouverneur-en-conseil de signer les lois qui feraient de la chirurgie dentaire une profession libérale. (L'année précédente —1868—les députés de la province d'Ontario avaient accordé ce privilège aux dentistes de cette province.)

L'Association des chirurgiens dentistes de la province de Québec, reconnue légalement, fut obligée de créer des règlements auxquels les intéressés eurent à se soumettre.

La nature humaine, en toutes circonstances, reste la même.

Les chirurgiens dentistes, nonobstant les nouveaux statuts, continuaient à se diviser en deux sections: l'une, comprenant les médecins-dentistes et les didactiques qui considéraient l'étude des sciences dentaires une nécessité, l'autre, les artisans qui retardaient le développement professionnel et ne pensaient qu'augmenter leur pécule.

Le 20 avril 1869, l'Association, hôte du docteur Aldis Bernard, élisait les gouverneurs et les examinateurs. Le lendemain, les sujets, exigés par le corps professionnel, étaient distribués à des précepteurs approuvés: préceptes dentaires, Aldis Bernard; pathologie dentaire, F. Baillargeon et W.-G. Beers; hygiène dentaire, M. Pourtier; mécanique dentaire, J.-H. Webster; anatomie, C.-F.-F. Trestler; chimie, C. Brewster; obturations, J.-A. Bazin; anesthésie, E. Lefavre; orthodontie, H.-D. Ross; chirurgie buccale, J. McKee.

De l'antiquité à aujourd'hui, la chirurgie dentaire a été exercée surtout par le sexe fort; cependant l'histoire de l'Europe, de l'Amérique du Nord a laissé des noms de femmes-dentistes qui ont honoré leur profession et prouvé une véritable habileté.

La première femme aux Etats-Unis (personne encore a nié mes propos) à se mériter un parchemin de D.D.S. aurait été une demoiselle L.-B. Hoobs. Elle reçut ce titre, en 1866, du Ohio College of Dental Surgery à Cincinnati, E.-U.

Mlle Emma Gaudreau, née en 1861, élève des religieuses de la Congrégation Notre-Dame, sœur, belle-sœur, épouse, tante de chirurgiens dentistes, se mariait à



dix-sept ans (1878) à Henri-Edmond Casgrain D.D.S. et, le 9 avril 1898, l'épouse du docteur Casgrain était la première femme-dentiste, licenciée au Canada. Un contrat notarié, vers 1880, lui donnait le droit d'être étudiante en art dentaire et de faire certains travaux sous la surveillance d'un précepteur, son époux dans le cas présent qui pratiquait à Québec depuis 1870; elle se défendait d'être une odontotechnicienne; elle se faisait connaître au besoin: étudiante en chirurgie dentaire.

Agée, fatiguée d'avoir extrait et obturé des dents sans nombre pendant 25 ans, Emma Gaudreau (Mme H.-E. Casgrain), en 1922, donnait sa démission comme membre du Collège, (L'Association, en 1904, était appelée "Collège" pour éviter de se tromper avec l'Association dentaire canadienne fondée, en 1902, à Montréal.) Bien avant l'organisation du "Prêt d'Honneur" les honoraires de cette femme dentiste étaient dépensés à aider des étudiants indigents pour qui elle acquittait silencieusement la pension et les cours. J'ai connu plus d'un étudiant qui, sans ses largesses, auraient été, peut-être, des journalistes.

Si j'ai raconté brièvement la biographie de Mme Gaudreau Casgrain, je ne voulais forcer personne à lire une littérature peu intéressante.

Plus tard, à Montréal, il y eut deux canadiennes de langue anglaise qui m'étaient très sympathiques: Mlle Annie Grant-Hill, licenciée en 1893, dont le cabinet de consultation était au no 2250, rue Sainte-Catherine, près de l'avenue McGill College et Mlle Georgiana McBain, licenciée en 1903, ayant une clinique au no 2775, rue Sainte-Catherine entre les rues du Fort et Chomedey, celle-ci, démissionnaire en 1927, mourut en 1932, à Hudson Heights où elle avait son domicile depuis 1915.

L'Université McGill donnait un titre de G.D.S. mais, en 1911, l'Ecole dentaire bilingue de l'Université Bishop ayant fermé ses portes, elle créa une faculté dentaire laquelle décernait les D.D.S. De peur d'oublier quelques diplômés, je ne nommerai pas de noms.

L'Université Laval conférait, depuis 1904, les parchemins de D.D.S. En 1919, les demoiselles Jeanne Guimond et Rose Hébert obtinrent leur D.D.S. Le Collège, la même année, leur accordait les licences. Mlle Rose Hébert (Mme A. Lacasse), il est vrai, est allée à Québec à l'Hôtel du Gouvernement demander à qui de droit d'antidater des examens en retard pour lui permettre, la même année, d'être examinée et de bénéficier d'un doctorat et d'une licence.

Mme Florence Abregson, en 1921: Mlle Pauline Rivard (Mme Guy Benoit), en 1948; Mlle Claude Beïque (Mme Jean Nadeau), en 1949; Mme Rose Gak, en 1956, ont eu l'honneur de mériter un doctorat de l'Université de Montréal.

De cette date (1956) à aujourd'hui j'ignore le nom de femmes-dentistes qui ont eu un parchemin D.D.S. et à qui le Collège a donné une licence.

Gisèle Grignon, journaliste à l'hebdomadaire *La Patrie*, écrivait dans ce journal, le 13 août 1961, un article intitulé "La première dentiste canadienne-française." C'est un titre faux! . . . Dès le XIXe siècle, il y eut des femmes-dentistes au Canada. Mlle Colette Perroux a mérité un parchemin D.D.S. de l'Université de Montréal; malgré des études universitaires à Paris, elle dut faire un stage de deux ans à la Faculté dentaire de Montréal avant d'avoir un doctorat; elle est arrivée, en 1956, au pays, étant mariée à Claude Maranda D.D.S.; le Collège, en 1959, lui octroyait une licence.

Mme Colette Perroux-Maranda est peut-être un as dans la profession à laquelle elle escomptait donner plus de temps si elle n'était pas la mère d'un gentil petit garçon: Hervé.

Je suis certain que la profession de chirurgie dentaire, pratiquée davantage par des hommes, est très féminine.

Le charme, le sourire, la dextérité d'une femme contribueront à détendre les patients nerveux, à rendre plus agréables ces moments ennuyeux. Cette science, étudiée par les époux Maranda, les aidera à gagner des patients.

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## **Le rôle de la biopsie dans la détection des cancers buccaux**

La Société américaine du cancer a rédigé un opuscule dans le but d'attirer l'attention des chirurgiens dentistes sur le rôle qu'ils peuvent et, plus encore, doivent jouer dans la détection du cancer. Ce geste est certes une reconnaissance non équivoque des prérogatives de la profession dentaire; il n'en trace pas moins les obligations qui s'y rattachent.

Si les cancers de la cavité buccale ne représentent que 4 pour cent de toutes les tumeurs malignes, ils sont cependant les plus mortels. Les statistiques révèlent en effet que le taux de guérison des cancers buccaux ne dépasse pas 30 pour cent dans les régions des Etats-Unis disposant des meilleures facilités de traitement. La Société américaine du cancer qualifie de "crucial" le rôle du dentiste dans le dépistage de ces maladies. Et ce, pour des raisons que l'on connaît bien. D'abord, parce que d'après la nature de son travail, le dentiste a l'occasion de déceler les lésions asymptomatiques qui peuvent être cancéreuses. Aussi parce que les patients qui ont remarqué dans leur bouche la présence de leucoplasie, d'excroissance, d'induration des tissus ou encore d'ulcération qui ne guérit pas consultent ordinairement un dentiste. "Par conséquent, le dentiste est souvent le premier à avoir l'occasion de reconnaître ou de suspecter un cancer buccal à ses débuts chez les patients alertés ou non de la présence d'une telle lésion."

Le dentiste a donc l'obligation morale de porter ses yeux au-delà des dents et

des gencives. Quand il note une lésion supposément cancéreuse, il doit sans délai référer le patient ou prendre lui-même une biopsie. "Quoique la biopsie soit de technique relativement facile, elle est d'une grande importance pour le patient, puisque, si le cancer n'est pas diagnostiqué, la vie en est le prix. Une biopsie est adéquate lorsqu'elle contient des tissus représentatifs de la lésion. Le pathologiste se prononce d'après les tissus qu'on lui envoie."

Même si l'opinion contraire a déjà été émise, la Société américaine du cancer est d'avis que le dentiste, rompu qu'il est à un travail délicat, possède l'habileté et les connaissances suffisantes pour faire une bonne biopsie. L'épithélioma épidermoïque, en cause dans une proportion de 90 à 95 pour cent des cancers buccaux, présente ordinairement des lésions en surface; la biopsie ne comporte pas alors de difficultés sérieuses. Le dentiste devrait, toujours selon la Société américaine du cancer, faire lui-même la biopsie. "A moins cependant de connaissances particulières, le praticien général devrait limiter ses prélèvements aux seules lésions superficielles des épithéliomas épidermoïques."

La condition essentielle à une bonne biopsie est la non-lacération des tissus. Aussi l'anesthésie, si nécessaire, sera-t-elle pratiquée au pourtour et non au centre du prélèvement. Comme le dentiste ne dispose pas ordinairement de la pince à biopsie légère, il peut retenir le

morceau des tissus à extirper à une de ses extrémités avec une pince hémostatique afin de faciliter l'incision. Inutile d'ajouter que le bistouri doit être très tranchant.

La grosseur de la biopsie doit être de 3 à 5 mm et faite assez en profondeur pour qu'il y ait saignement; l'on aura alors la certitude de fournir au pathologiste non seulement des cellules nécrosées de surface, mais aussi une portion vraiment représentative de la tumeur.

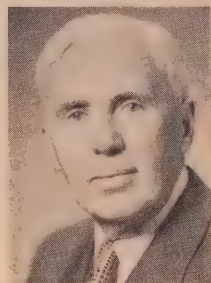
Le tissu prélevé est aussitôt immergé dans une solution de formaline à 10 pour

cent et expédié à un hôpital qui dispose d'un anatomo-pathologiste (tous les principaux hôpitaux analysent les biopsies) . . . Si le dentiste ne pratique pas lui-même la biopsie, il doit référer ses patients à des cliniques anti-cancéreuses (qui se tiennent dans les grands hôpitaux). Il en coûte ordinairement dix dollars pour l'analyse d'une biopsie.

Le dentiste doit aussi présenter une histoire de cas en n'oubliant pas surtout d'indiquer la forme, la couleur, la grosseur et le site de la lésion.

P. S.

### **Anniversaire du docteur Ernest Charron**



Tous nos confrères, dans quelque province qu'ils habitent, voudront sans doute marquer un anniversaire qui fait époque dans l'histoire de notre profession. L'un de ses membres les plus éminents, le docteur Ernest Charron, célèbre cette année le cinquantenaire de son admission à la pratique de la chirurgie dentaire. Il a donc vécu l'époque héroïque de notre profession et il a participé activement à l'évolution d'un art que l'on ne tenait alors que pour une espèce de métier supérieur.

Peu après ses études, en 1912, et l'obtention de sa licence, en 1913, il poursuivit à Philadelphie des études post-scolaires en anesthésie et chirurgie, sous la direction des docteurs Guido Fischer et Ruth Miller, initiateurs de l'anesthésie conductive, technique qu'avait rendue possible la récente découverte de la novocaïne par Einhorn. Il compléta ces études par des stages à New-York, à Chicago et à Paris où, en 1920, il suivit des cours de physiologie. Chargé de cours, professeur, puis agrégé en chirurgie et anesthésie, professeur titulaire et, plus tard, secrétaire

de la faculté de chirurgie dentaire de l'Université de Montréal, il fut appelé en 1944 au décanat et chargé de la réorganisation pédagogique de cette faculté. Grâce aux relations qu'il s'était créées dans son domaine professionnel et dans la société, en Europe aussi bien qu'en Amérique, il avait acquis une claire conception de ce qu'allait être l'évolution de la profession dentaire. Il se mit résolument à l'œuvre. Il s'assura la collaboration des plus grandes compétences dans cette discipline et il mena si bien sa tâche que les facultés dentaires du Canada et des Etats-Unis ne tardèrent pas à accorder l'équivalence à notre faculté. Cette étape franchie, il concentra ses efforts sur la formation d'un corps professionnel mieux qualifié. Grâce à son esprit diplomatique et à son grand sens social,

il obtint de diverses sources, et en très grande partie de la Fondation Kellogg, des bourses qui ont permis à 57 de nos diplômés de poursuivre des études post-scolaires d'une durée variant entre quelques mois et deux années. Secondé par un personnel compétent, il pouvait désormais s'en remettre à lui pour assurer, sous sa direction, la formation de ses étudiants, formation dont on reconnaît qu'il n'y en a pas de meilleure en Amérique. Il institua en outre, à l'intention des praticiens, des cours post-scolaires de courte durée qui leur ménageaient l'occasion de combler les lacunes qui auraient pu se produire depuis leur graduation. Il ne paraît pas hors de propos d'ajouter que, sous son décanat, la direction de la faculté se caractérisait par la discipline, tempérée par la courtoisie et par un strict souci d'équité qui assurait à chacun que ses griefs, réels ou non, seraient toujours l'objet d'un examen rigoureusement objectif.

L'œuvre considérable qu'il a accomplie n'absorbait pas pourtant toute l'énergie du Dr Charron, et ses relations s'étendaient jusqu'en Europe. L'énumération de quelques-unes de ses initiatives, comme la fondation, avec un petit groupe, du Cercle Universitaire de Montréal, dont il fut président, ainsi que des fonctions qu'il a exercées et des titres qui lui furent décernés, constitue autant d'étapes dans une carrière bien remplie et consacrée tout entière à l'avancement et au prestige de notre profession. Il a été président du Collège des chirurgiens-dentistes de la province de Québec, de 1924 à 1927; président, en 1952, de l'International College of Dentists et

membre honoraire de l'Association dentaire canadienne. Il était nommé, en 1948, "fellow" du Royal College of Surgeons of England et, en 1951, "fellow" (en chirurgie dentaire) du Royal College of Surgeons of Edinburgh. En 1958, l'Université de Dalhousie lui décernait le titre de Docteur en Droit, Honoris Causa. Son titre d'Officier d'Académie atteste qu'il a bien servi la langue française dans l'enseignement.

Ce qui distingue le docteur Charron, c'est sans doute sa parfaite courtoisie, son urbanité et sa droiture, son sens social, son ardeur au travail et sa fierté de l'ouvrage bien fait. Ajoutons que ses amis recherchent beaucoup sa compagnie, parce que sa conversation abonde en récits évocateurs et en observations d'une grande lucidité, assaisonnés d'une pointe d'humour très personnelle. A 72 ans, après 50 années d'exercice dont 46 ont été vouées au service de la faculté et de la profession, le docteur Charron continue à s'intéresser à tout ce qui est susceptible de favoriser le progrès de l'enseignement et de la pratique de la chirurgie dentaire. Aussi je ne doute pas que tous nos confrères canadiens voudront se joindre à nous pour souhaiter à notre ami Charron santé, bonheur et longue vie, parce qu'ils partagent sûrement l'avis du poète qui disait:

*"N'est-il pas plus sincère d'offrir à un  
ami*

*Une rose épanouie,  
Que de répandre sur son cercueil  
Des gerbes fleuries?"*

J. A. F.

*La chirurgie dentaire: profession féminine • L'expérience a montré que la femme peut très bien supporter l'effort physique requis par l'exercice dentaire et ses aptitudes naturelles pour les travaux minutieux, ses goûts artistiques, sa patience avec les enfants la rendent particulièrement apte à jouer un rôle important dans cette spécialité.—Le Chirurgien-dentiste.*

## les actualités dentaires

### Les dirigeants de l'Association dentaire canadienne siègent avec ceux de l'Association dentaire américaine

Le Conseil Exécutif de l'Association dentaire canadienne et le Bureau des directeurs de l'Association dentaire américaine se sont rencontrés les 6 et 7 septembre derniers pour la seconde fois dans l'histoire des deux associations. La réunion a eu lieu dans l'édifice de l'Association américaine des hôpitaux, à Chicago. La première assemblée semblable avait eu lieu à Toronto, en mai 1960.

Les deux délégations ont étudié ensemble des problèmes communs: les tendances à la nationalisation des services de santé au Canada et aux États-Unis; l'utilisation du personnel auxiliaire; la fluoruration, les plans de services dentaires; l'octroi de licences aux techniciens dentaires; les plans d'assurance-traitaire pour les dentistes; l'accréditation des techniciens dentaires; la spécialisation; les programmes de législation; et l'enseignement dentaire.

Le docteur G. D. Timmons, président de l'Association dentaire américaine, a ouvert l'assemblée et on a procédé à la présentation des délégués des deux associations. Ensuite, les porte-paroles des deux associations ont fait des déclarations sur les problèmes actuels et établi la politique de leurs associations respectives sur ces questions. Les orateurs ont exposé brièvement mais adéquatement les antécédents constitutionnels et politiques de chacune de ces questions. Ceux qui assistaient à cette assemblée ont ensuite pris part à une discussion franche et animée sur tous ces sujets. Cette conférence n'avait comme but que de renseigner ceux qui y prenaient part. On n'a tiré aucune conclusion officielle, on n'a fait aucune recommandation, on n'a pris aucune décision.

Les représentants de l'Association dentaire américaine étaient les suivants: G. D. Timmons, président; J. P. Hollers, président-élu; A. D. Farver, premier vice-président; R. W. Openshaw, deuxième vice-président; A. W. Easton, troisième vice-président; A. E. Kopp, W. A. Garrett, C. S. Kurz, L. L. Lathrop, P. K. Musselman, M. K. Hine, E. J. Justis, H. A.



Lors de la conférence A.D.C.-A.D.A. à Chicago on voit de g. à d.: J.-P. Lussier, président du conseil d'enseignement; J. P. Hollers, président de l'Association dentaire américaine; Rémy Langlois, président-élu de l'Association dentaire canadienne; et J. P. Coupland, membre du Conseil Exécutif de l'A.D.C.

McGuire, H. M. Willits, J. S. Eilar, E. F. Mimmack, F. A. Pierson, et R. Trueblood, directeurs; F. D. Ostrander, président de la chambre des délégués.

De plus, Harold Hillenbrand, secrétaire; P. H. Jeserich, trésorier; L. C. Hendershot, rédacteur du *Journal de l'Association dentaire américaine*; L. W. Morrey, rédacteur honoraire; C. G. Watson, B. J. Conway, J. R. Doty, J. P. Noone et C. L. Sebelius, assistants-secrétaires; W. G. Ball, John Coady, P. C. Goulding, H. C. Lassiter, D. B. Moen, D. H. Rowcliffe, Harvey Sarner, K. E. Wessels et J. E. Zur, du personnel du secrétariat.

Les représentants de l'Association dentaire canadienne étaient: James Zimmerman, président; Rémy Langlois, président-élu; G. M. Dewis, trésorier; J. P. Coupland, P. S. Christie, M. V. J. Keenan, W. P. Munsie et W. J. Riley, membres du Conseil Exécutif.

De plus, H. W. Reid, aviseur du conseil d'enseignement; P. G. Anderson, fiduciaire du plan d'assurance; H. R. MacLean, président du comité des services auxiliaires; A. R. S. Gray, président du conseil d'hygiène publique; M. A. Rogers, président du comité des spécialistes et de la spécialisation; J.-P. Lussier, président du conseil d'enseignement dentaire; W. G. McIntosh, président du comité des services dentaires; D. W. Gullett, secrétaire de l'Association; K. L. Croft, sous-secrétaire; Mme B. I. Brown, directrice du Bureau des recherches économiques; et F. H. Compton, rédacteur du *Journal de l'Association dentaire canadienne*.



Étaient aussi présents: Mlle Margaret Swanson, secrétaire de l'Association américaine des hygiénistes dentaires et R. H. Sullens, secrétaire de l'Association américaine des facultés dentaires.

## Le Canada

### LE DR BROWN PRENDRA SA RETRAITE

Le docteur Harry K. Brown, au mois de décembre, quittera son poste comme chef de la division dentaire du Ministère de la santé nationale et du bien-être social, à Ottawa. Son successeur n'a pas encore été nommé.

Le docteur Brown, qui a agi comme président du comité d'hygiène publique de l'Association dentaire canadienne, a été l'officier dentaire senior du ministère fédéral de la santé depuis 1947. Il a été instituteur avant de s'inscrire à la faculté dentaire d'Alberta. Il a exercé à Edmonton, Lethbridge et Barrhead. De 1935 à 1940, il fut membre de la Législature d'Alberta. Il a fait du service militaire durant deux guerres, se retirant en 1945 avec le titre de lieutenant-colonel.

### UNE ANCIENNE DENTISTE NOMMÉE AU CONSEIL DU CANADA

Mme Miriam Dorrance, de Vancouver, a été nommée au Conseil du Canada. Mme Dorrance qui a abandonné sa carrière de dentiste, il y a plusieurs années pour élever sa famille, a déclaré (selon un journal de Vancouver): "Je n'abandonnerais pas ma carrière aujourd'hui; les épouses ne font plus cela". Avant son mariage, Mme Dorrance était la seule dentiste exerçant en Alberta; elle a exercé de 1921 à 1924. Avant son mariage, elle était Mlle Miriam Barber et elle avait terminé ses études à Toronto, en 1921.

### LE CHEF DENTAIRE DU MINISTÈRE DES ANCIENS COMBATTANTS PREND SA RETRAITE; TANNER LUI SUCCEDE

Le docteur Lee A. Kilburn a pris sa retraite comme chef du service dentaire du Ministère des anciens combattants. Son successeur est le docteur Douglas M. Tanner, de Toronto.

Vétérant des deux guerres mondiales, le docteur Kilburn a exercé plusieurs années à Hamilton après avoir terminé ses études à Toronto, en 1923. Il a été au service du ministère durant 17 ans.

Le docteur Tanner a exercé à Toronto jusqu'en 1933, quand l'armée l'a envoyé en Angleterre, en Afrique du nord et en Italie. Il a été nommé membre de l'Ordre de l'Empire britannique à son titre de membre de l'équipe de chirurgie maxillo-faciale de l'Hôpital général canadien no 15. Après la guerre, il a limité sa pratique à la chirurgie buccale jusqu'en 1958 où il devint membre du personnel, à plein-temps, du Sunnybrook Hospital (MAC) à Toronto. Le docteur Tanner est "fellow" et registraire de la section canadienne du Collège international des dentistes.

## Chronique internationale

### LA COUR SUPRÊME D'IRLANDE JUGE QUE LA FLUORATION EST SÛRE ET LÉGALE

Le juge Kenny, de la Cour suprême de Dublin, Irlande, vient de rejeter une action dont le procès a duré 65 jours prise contre la loi de fluoration d'Irlande. Dans un jugement dont la lecture a pris plus de deux heures, le juge Kenny s'est déclaré satisfait de la façon dont la fluoration de l'eau des aqueducs s'est faite; il a ajouté qu'à cause du climat tempéré du pays, cette mesure ne présente pas de danger pour quiconque et qu'il n'y a pas de possibilité qu'elle devienne dangereuse ou qu'elle offre un élément de danger pour les citoyens. Les frais de cour (on rapporte qu'ils sont de l'ordre de \$700,000.) ont été chargés à la plaignante, Mme Gladys Ryan, de Dublin. On songe à en appeler de ce jugement.

La cour a souligné que la loi de santé de 1960 (Fluoration de l'eau des aqueducs), qui oblige les autorités de santé à adopter cette mesure, ne contredit aucun des droits constitutionnels de la plaignante.

Le juge a critiqué quelques témoins de la poursuite en disant que leur témoignage se basait sur des sentiments et qu'ils semblaient déterminés à tout prix à faire rejeter la fluoration, sans lui concéder aucun avantage. On a inscrit au dossier un fort volume de preuves scientifiques et médicales soumises par des experts et d'articles provenant de toutes les parties du monde. Selon l'opinion de la cour, la fluoration ne causerait pas de tort, ni d'inconvénient à qui que ce soit et ne violerait aucun droit civil.

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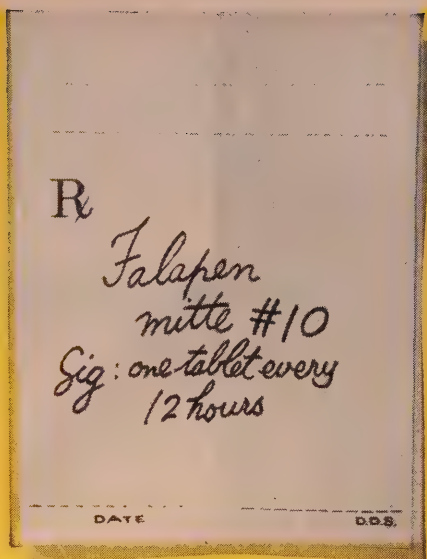
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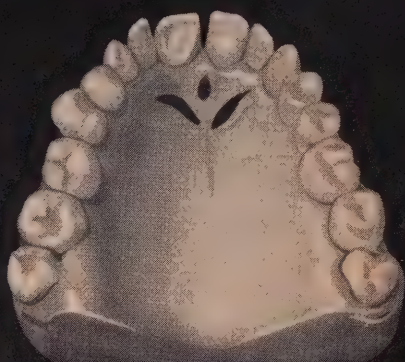


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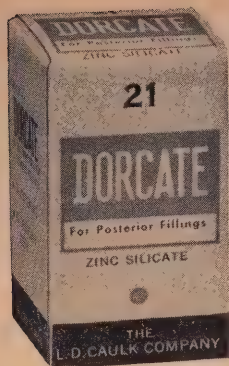
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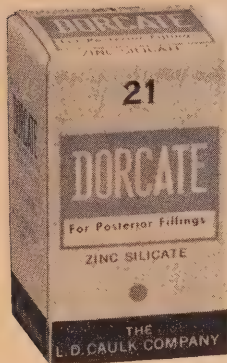
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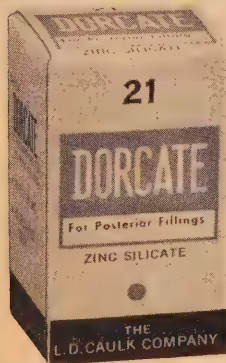
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**FOR SALE:** good steady practice in North Western Ontario town of 10,000 with an annual average net income in excess of \$25,000.00 over the past 5 years. Office next to home with four schools within 5 blocks. Real estate valued at \$60,000.00. Excellent fishing and hunting. Will consider low down payment. For additional information and photographs write: C.D.A. Box 301.

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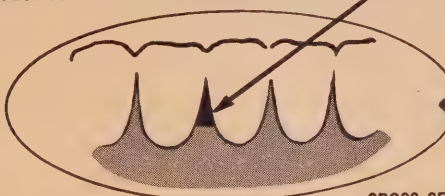
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